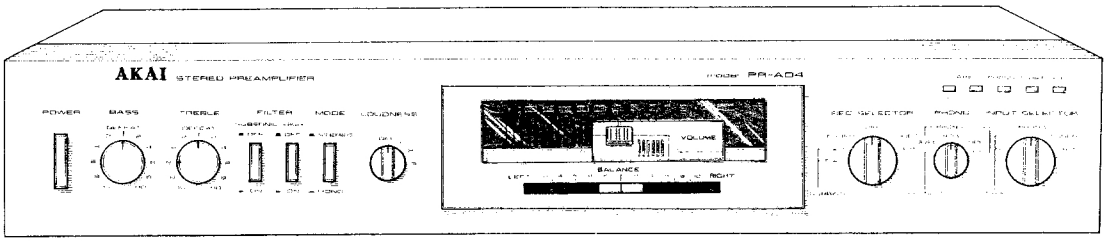
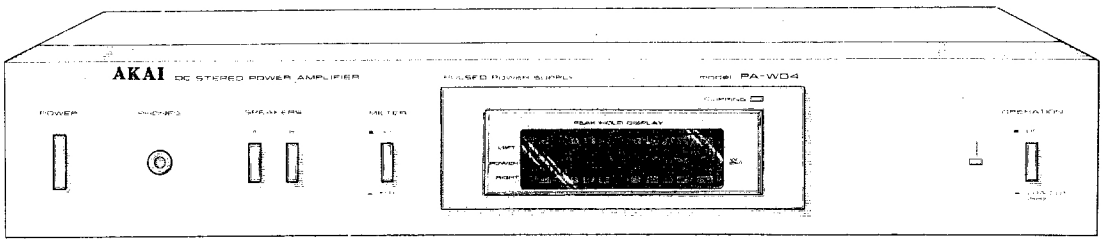
AKAI SERVICE MANUAL

PR-A04



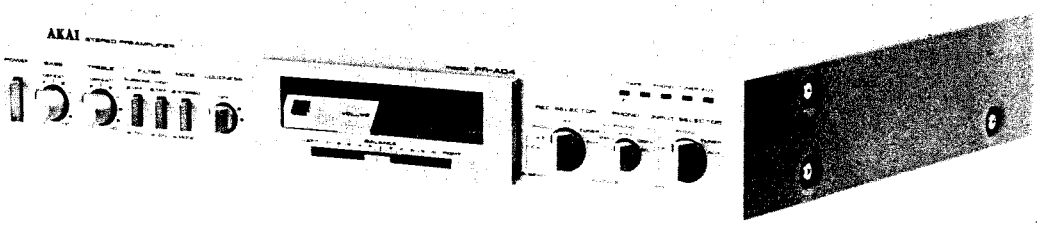


STEREO PRE-AMPLIFIER

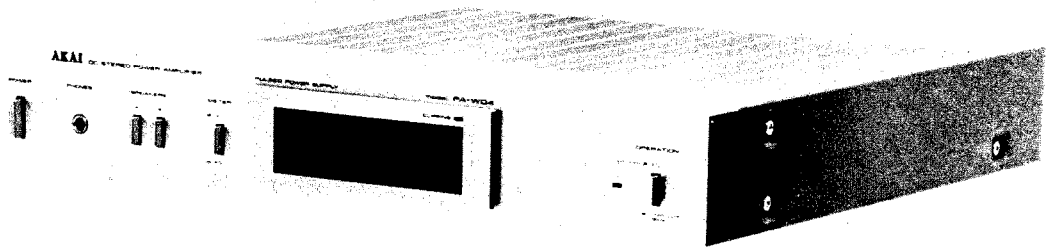
MODEL PR-A04

DC STEREO POWER AMPLIFIER

MODEL PA-W04



PR-A04



PA-W04

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SECTION 1

STEREO PRE-AMPLIFIER

MODEL PR-A04

ALSO APPLICABLE TO BLACK PANEL MODEL

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I. TECHNICAL DATA

INPUT SENSITIVITY/IMPEDANCE/ SIGNAL TO NOISE RATIO (IHF "A")	
PHONO 1/2 (MM)	3 mV/47 kohms/82 dB
PHONO 1 (MC)	0.08 mV/10 ohms/75 dB
TUNER	150 mV/47 kohms/102 dB
AUX	150 mV/47 kohms/102 dB
TAPE PLAY 1	PIN: 150 mV/47 kohms/102 dB DIN: 150 mV/100 kohms/80 dB
TAPE PLAY 2	PIN: 150 mV/47 kohms/102 dB
OUTPUT LEVEL/IMPEDANCE	
TAPE REC 1	PIN: 150 mV/600 ohms DIN: 30 mV/30 kohms
TAPE REC 2	PIN: 150 mV/600 ohms
OUTPUT	1 V/600 ohms
RATED LOAD IMPEDANCE	47 kohms
PHONO MAX. INPUT LEVEL (1 kHz)	
PHONO 1/2 (MM)	400 mV
PHONO 1 (MC)	10 mV
FREQUENCY RESPONSE	
TUNER/AUX/TAPE PLAY 1, 2	5 Hz to 100 kHz ± 0.5 dB
PHONO 1/2 (MM) (RIAA curve deviation)	30 Hz to 15 kHz ± 0.2 dB
PHONO 1 (MC) (RIAA curve deviation)	30 Hz to 15 kHz ± 0.2 dB
TOTAL HARMONIC DISTORTION (20 Hz to 20 kHz)	
TUNER/AUX/TAPE PLAY 1, 2	0.005% at output 10 V
PHONO 1/2 (MM)	0.005% at output 10 V
PHONO 1 (MC)	0.005% at output 10 V (Volume control set at Max. position)
TONE CONTROL	
BASS	±8 dB at 100 Hz
TREBLE	±8 dB at 10 kHz
SUBSONIC FILTER	12 dB/oct. at 18 Hz
HIGH FILTER	12 dB/oct. at 10 kHz
CHANNEL SEPARATION (AUX)	70 dB (Shorted Circuit)

MISCELLANEOUS

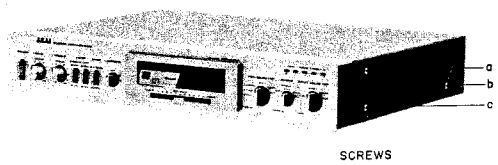
SEMICONDUCTORS	Transistors: 16, Diodes: 15, FETs: 2, ICs: 6
POWER REQUIREMENTS	120 V, 60 Hz for U.S.A. and Canada Models 220 V, 50 Hz for Europe except UK Models 240 V, 50 Hz for UK and Australia Models 110/120/220/240 V, 50/60 Hz internally Switchable for other countries Models
POWER CONSUMPTION	15 W
DIMENSIONS (W x H x D)	440 x 78 x 313 mm (17.3 x 3.1 x 12.3 inches)
WEIGHT	6.1 kg (13.4 lbs)

*** For improvement purposes, specifications and design are subject to change without notice.**

II. DISMANTLING OF UNIT

In case of trouble, etc. necessitating dismantling, please dismantle in the order shown in the photographs. Reassemble in reverse order.

1

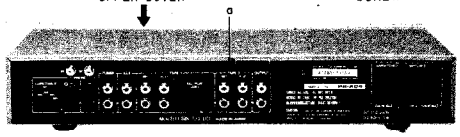


SCREWS

2

SCREWS

3



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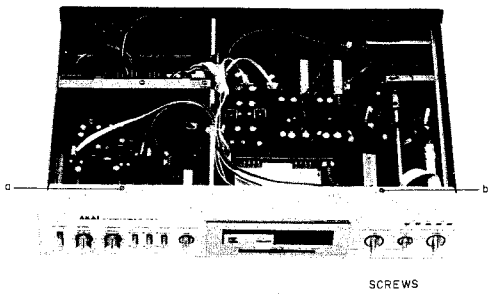

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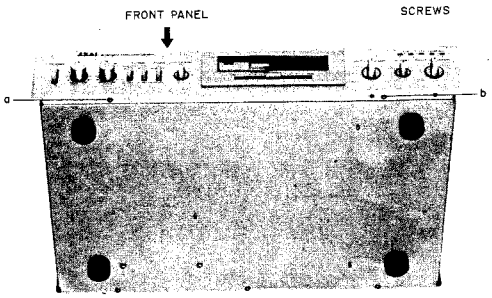

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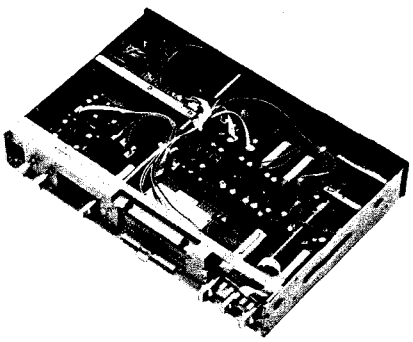


III. CONTROLS

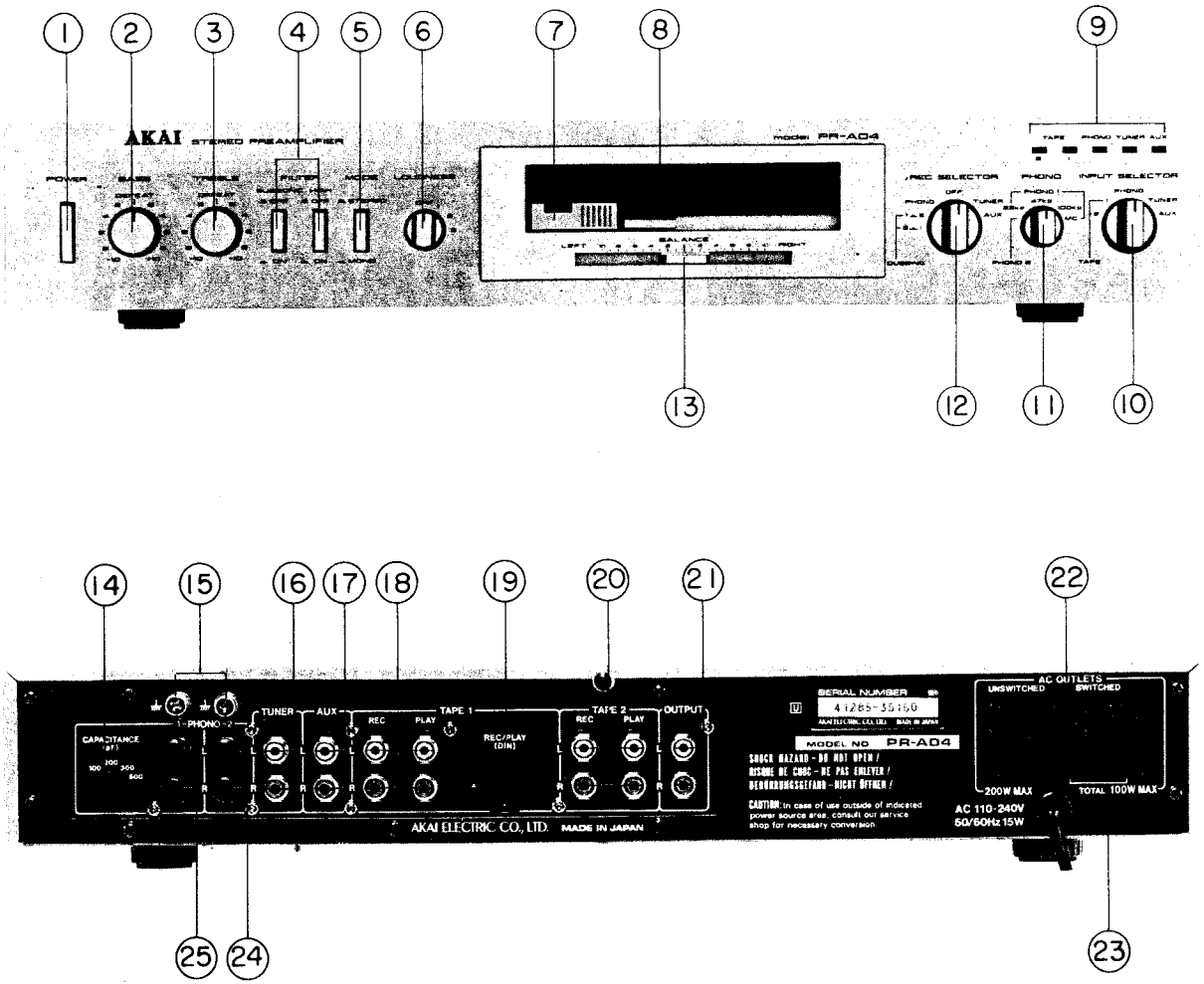


Fig. 1 Controls

1. POWER SWITCH
2. BASS CONTROL
4. FILTER SWITCHES
5. MODE SELECTOR
6. LOUDNESS SWITCH
7. VOLUME CONTROL
8. dB VOLUME SCALE
9. INPUT SELECTOR INDICATOR
10. INPUT SELECTOR
11. PHONO SELECTOR
12. REC (Recording) SELECTOR
13. STEREO BALANCE CONTROL
14. CAPACITANCE CONTROL
15. GROUND TERMINALS
16. TUNER TERMINALS
17. AUX TERMINALS
18. TAPE 1 SYSTEM REC/PLAY TERMINALS
19. TAPE 1 SYSTEM DIN JACK
    (Some models do not have this facility)
20. TAPE 2 SYSTEM REC/PLAY TERMINALS
21. OUTPUT TERMINALS
22. AC OUTLETS (Some models do not have this facility)
23. AC CORD (Some models are equipped with an AC Inlet instead of an AC cord. Connect with an appropriate power cord.)
24. PHONO 2 INPUT JACKS
25. PHONO 1 INPUT JACKS

IV. PRINCIPAL PARTS LOCATION

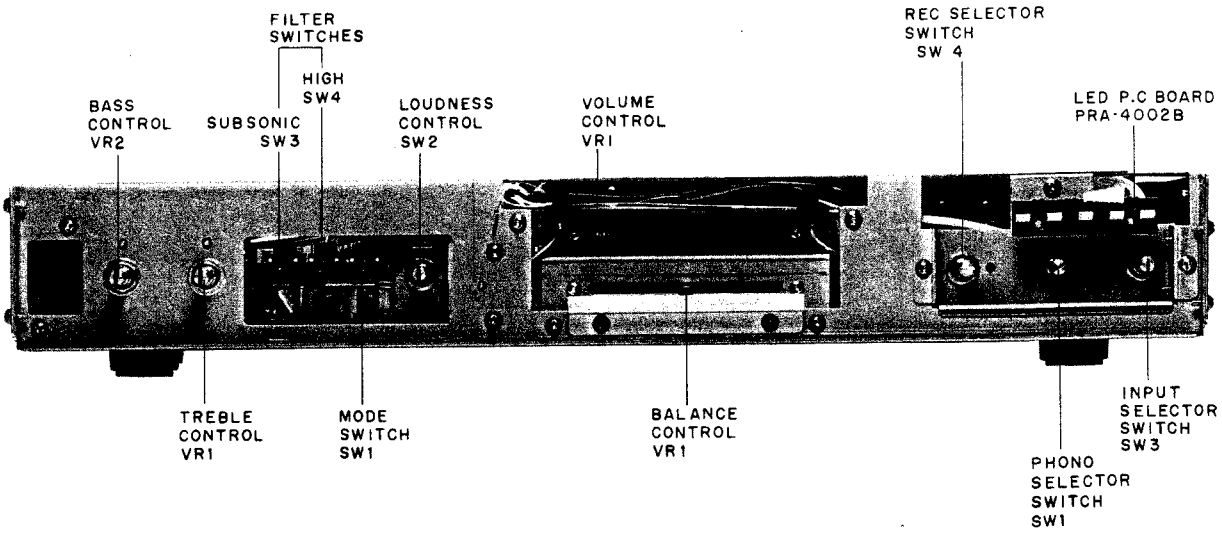


Fig. 2 Front View

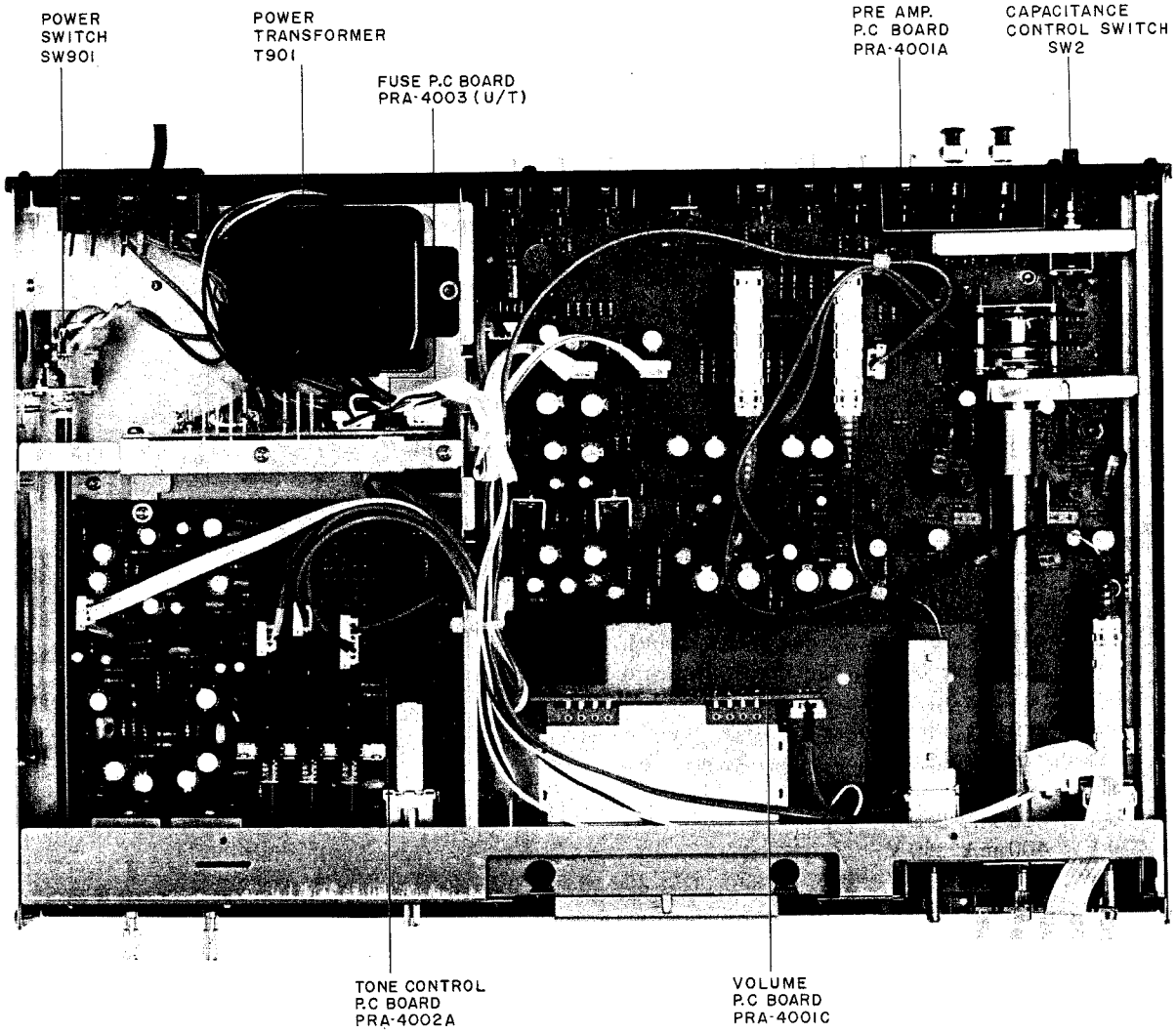

POWER SWITCH SW901
POWER TRANSFORMER T901
FUSE P.C BOARD PRA-4003 (U/T)
PRE AMP. P.C BOARD PRA-4001A
CAPACITANCE CONTROL SWITCH SW2
TONE CONTROL P.C BOARD PRA-4002A
VOLUME P.C BOARD PRA-4001C

Fig. 3 Top View

V. VOLTAGE CONVERSION

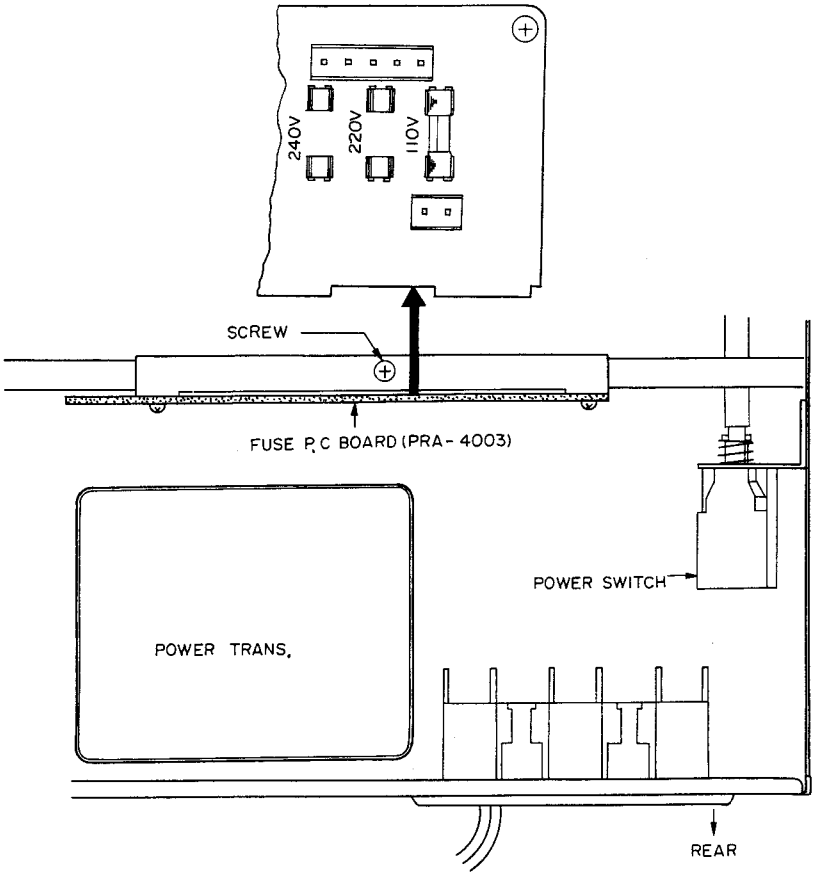


Fig. 4 Voltage Conversion (U/T Model)

1. U/T Model (Refer to Fig. 4)

1) Switch OFF the power supply and remove the plug from the mains supply.
2) Loosen holding screws and remove the top panel.
3) Remove the screw holding the Fuse P.C Board located near the power transformer.
4) Remove existing Line Voltage Fuse and insert required Line Voltage Fuse in the proper fuse holder.
   110 V : 800 mA 250 V
   220 V : 400 mA 250 V
   240 V : 400 mA 250 V

2. Models other than U/T

No voltage conversion.

VI. ADJUSTMENT

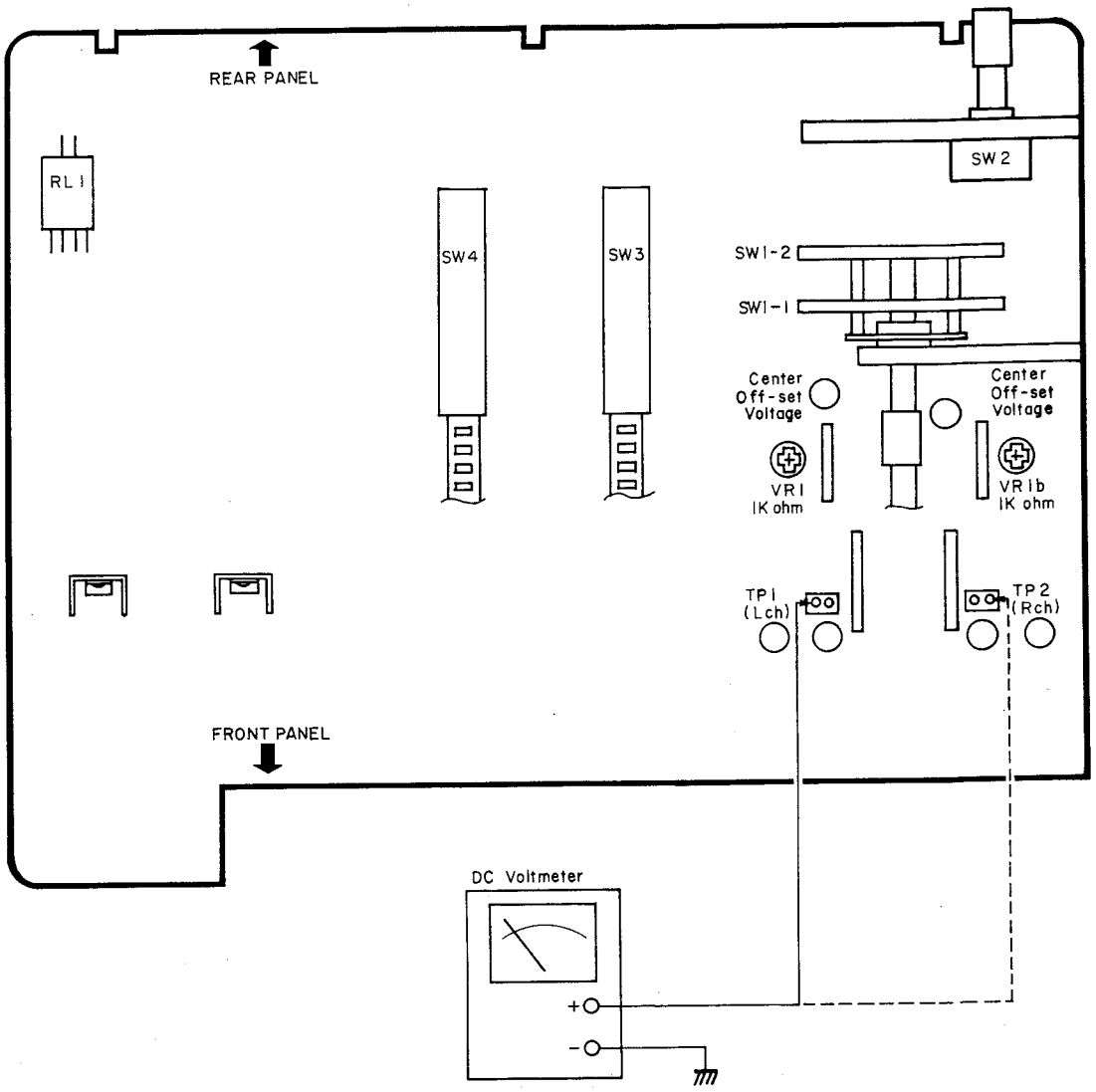


Fig. 5 Pre Amp P.C Board PRA-4001A

CENTER OFF-SET VOLTAGE ADJUSTMENT (Refer to Fig. 5)

Connect the Digital Voltmeter or DC Voltmeter between the test point on the Pre Amp P.C Board PRA-4001A and the ground.
Adjust the VR 1 (1 kohm) so that Voltmeter reading is 0 ± 0.5 V.

VII. CLASSIFICATION OF VARIOUS P.C BOARDS

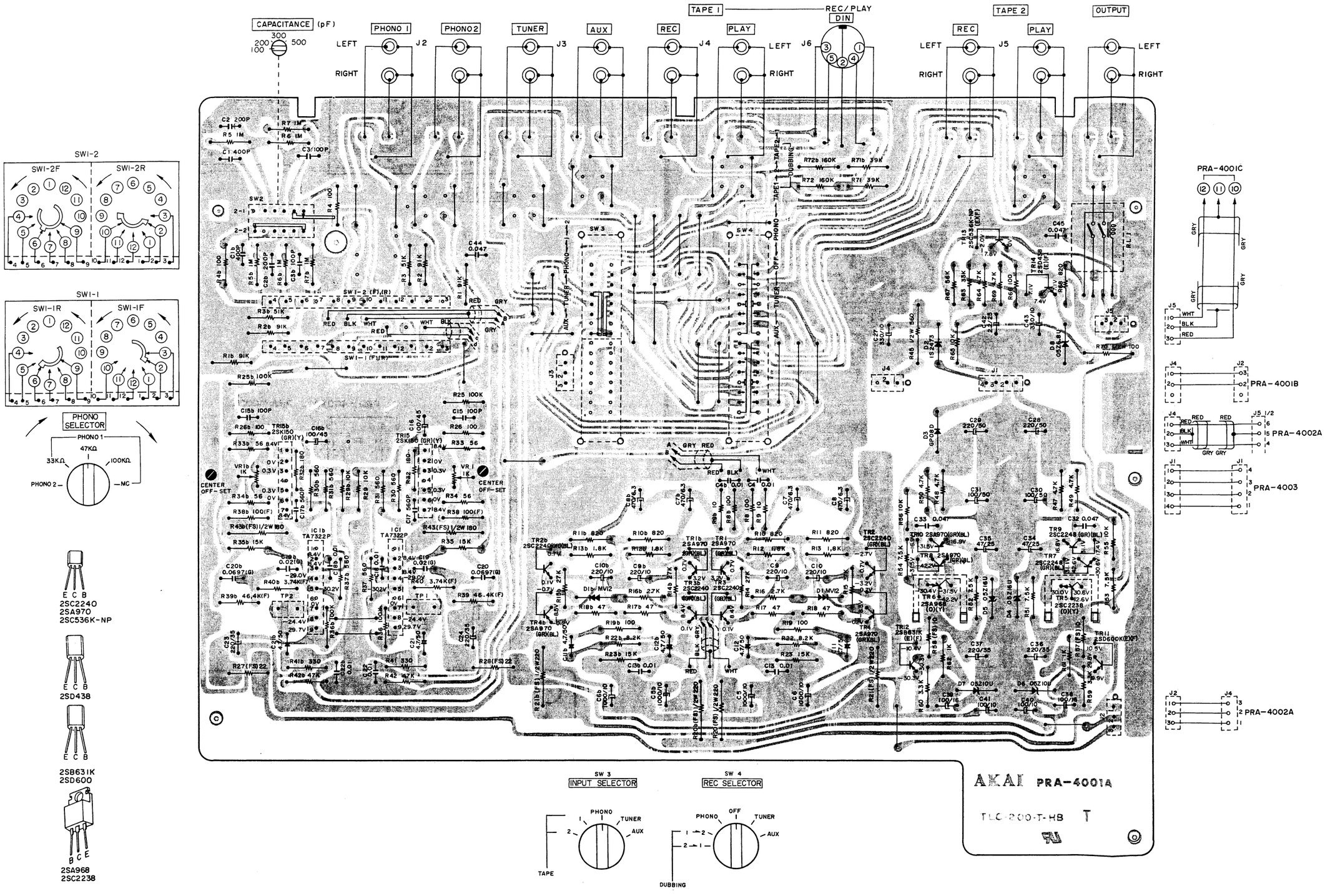
1. P.C BOARD TITLES AND IDENTIFICATION NUMBERS

P.C Board Title	P.C Board Number
Pre Amp P.C Board	PRA-4001A
Switch P.C Board	PRA-4001B
Volume P.C Board	PRA-4001C
Tone Control P.C Board	PRA-4002A
LED P.C Board	PRA-4002B
Fuse P.C Board (U/T)	PRA-4003
Fuse P.C Board (CSA, AAL)	PRA-4004
Fuse P.C Board (CEE, UK, SAA)	PRA-4005
Balance P.C Board	PRA-4042

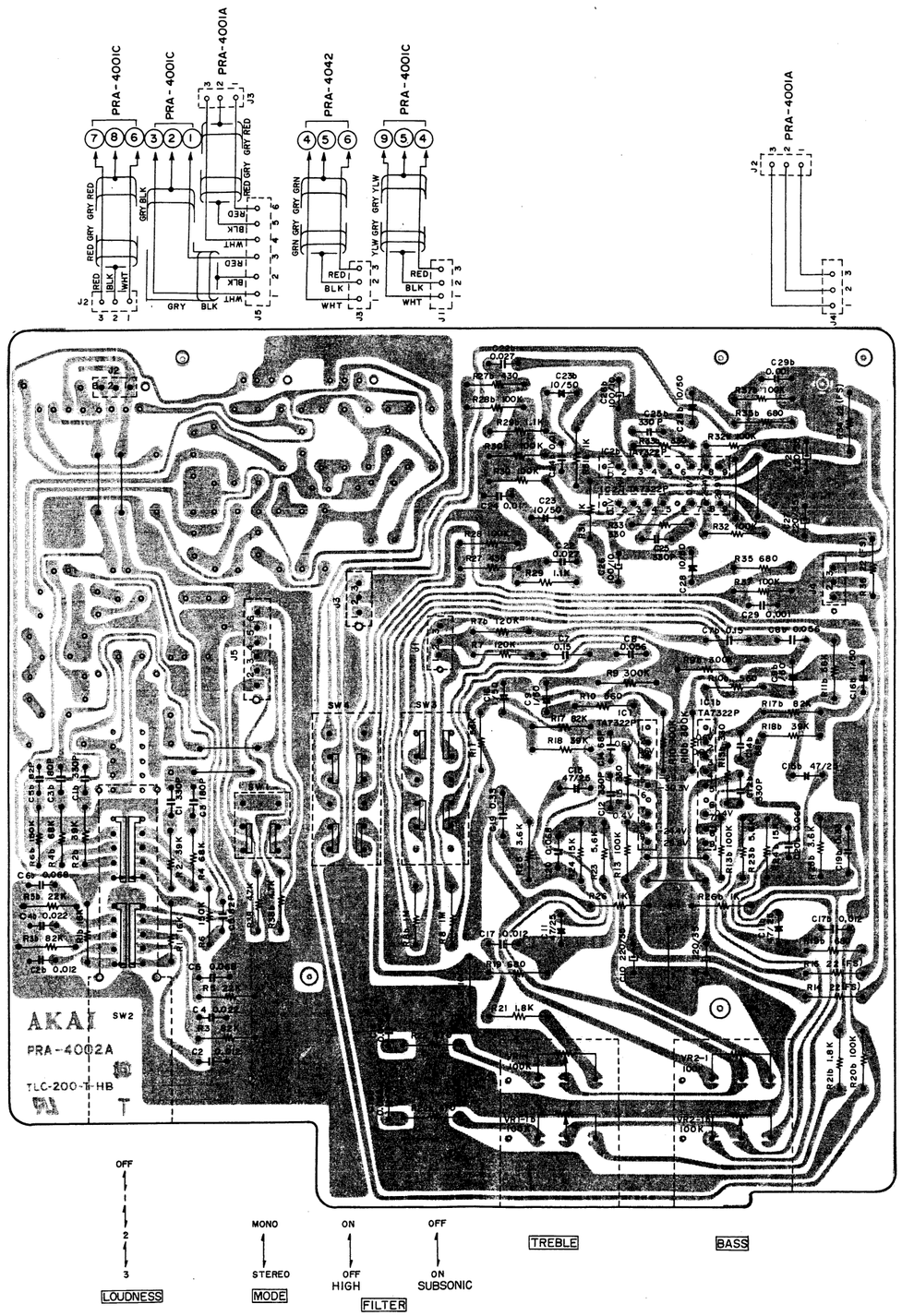
Chart-1

2. COMPOSITION OF VARIOUS P.C BOARDS

1) PRE AMP P.C BOARD PRA-4001A

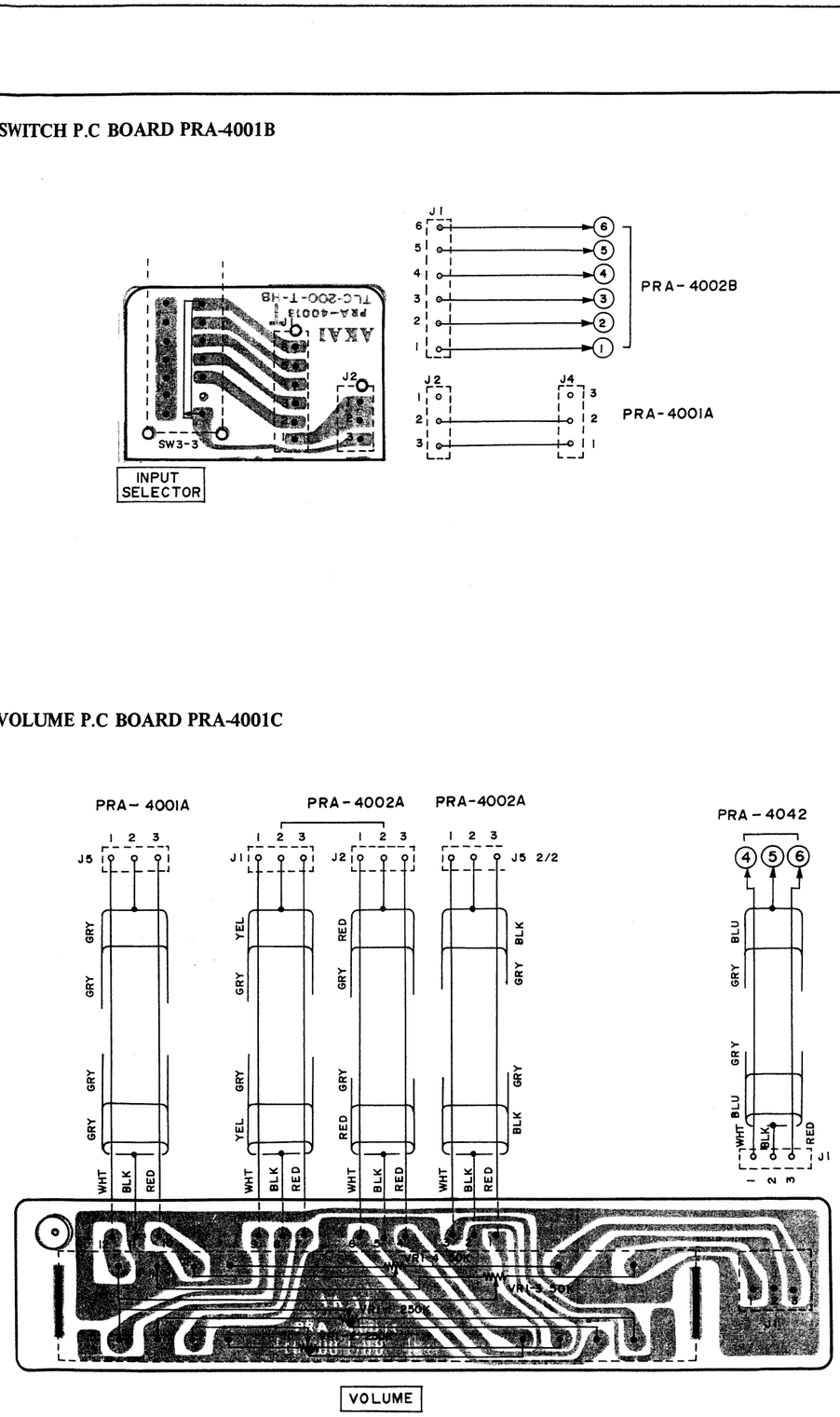


2) TONE CONTROL P.C BOARD PRA-4002A

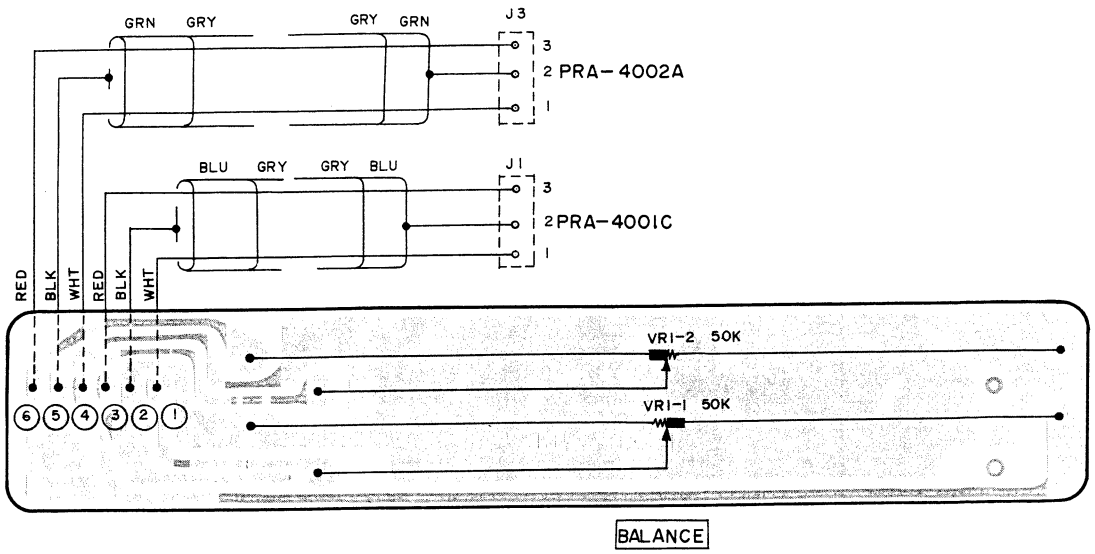


3) SWITCH P.C BOARD PRA-4001B

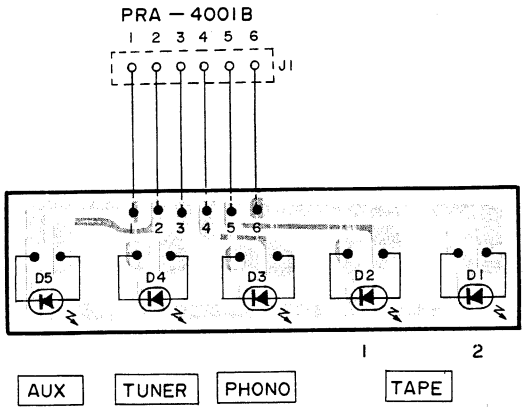
4) VOLUME P.C BOARD PRA-4001C



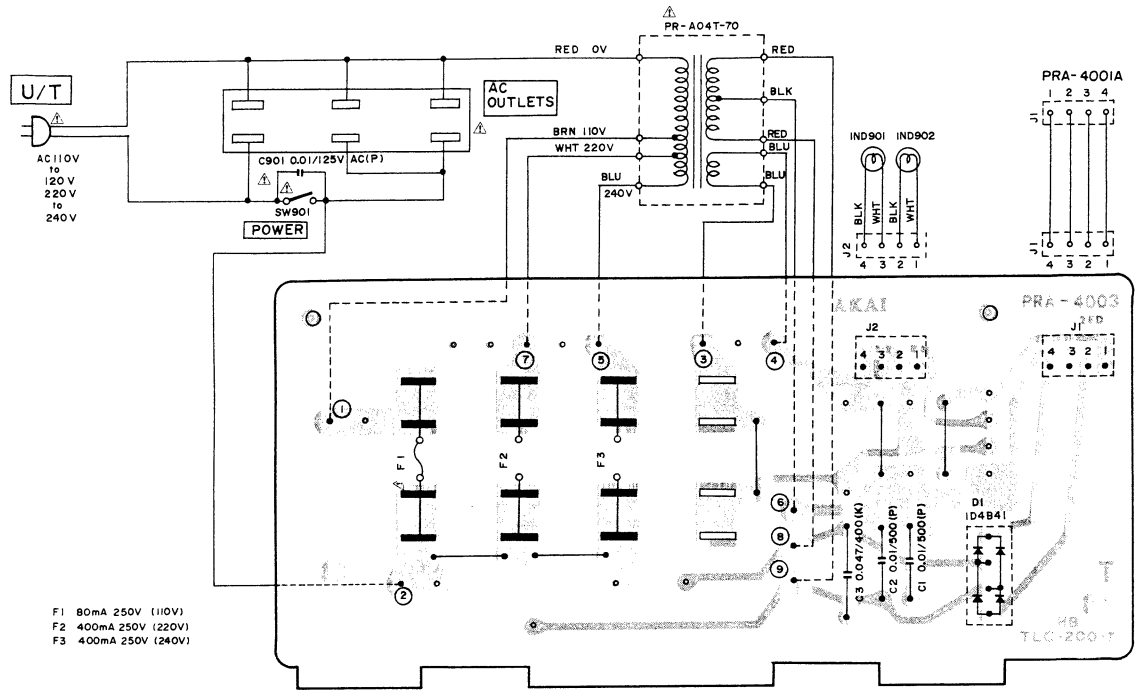
5) BALANCE P.C BOARD PRA-4042



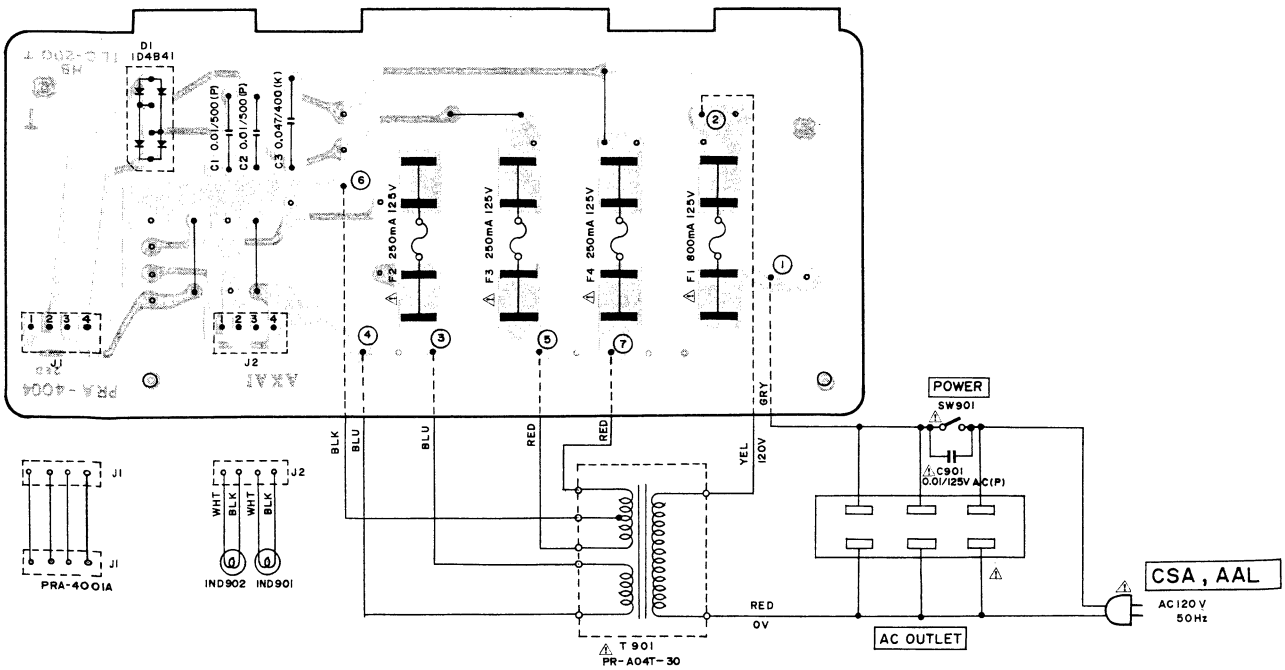
6) LED P.C BOARD PRA-4002B



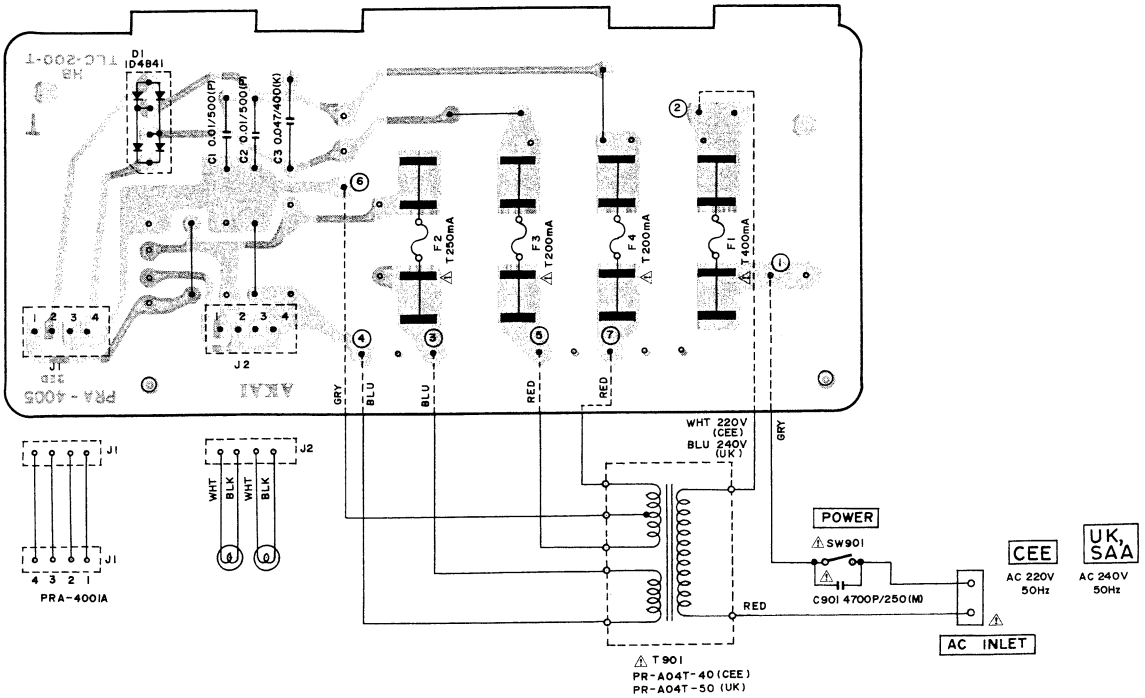
7) FUSE P.C BOARD PRA-4003 (2ED) (U/T)



8) FUSE P.C BOARD PRA-4004 (2ED) (CSA, AAL)



9) FUSE P.C BOARD PRA-4005 (2ED) (CEE, UK, SAA)



WARNING: ⚠INDICATES SAFETY CRITICAL COMPONENTS. FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS

AVERTISSEMENT: ⚠IL INDIQU LES COMPOSANTS CRITIQUES DE SÛRETÉ. POUR MAINTENIR LE DEGRE DE SECURITE DE L'APPAREIL NE REMPLACER LES CONPOSANTS DONT LE FONCTIONNEMENT EST CRITIQUE POUR LA SECURITE QUE PAR DES PIECES RECOMMANDEES PAR LE FABRICANT

SECTION 2

DC STEREO POWER AMPLIFIER

MODEL PA-W04

ALSO APPLICABLE TO BLACK PANEL MODEL

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I. TECHNICAL DATA

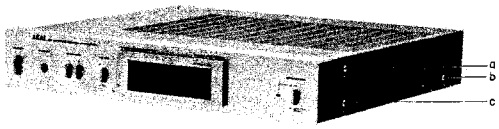
RATED POWER OUTPUT	48 watts per channel. minimum RMS. at 8 ohms from 20 to 20,000 Hz with no more than 0.008% total harmonic distortion.
TOTAL HARMONIC DISTORTION	0.008% at rated power output
INTERMODULATION DISTORTION	0.008% at rated power output
SIGNAL TO NOISE RATIO (IHF "A")	115 dB
RESIDUAL NOISE (IHF "A")	Less than 0.05 mV at 8 ohms
POWER BANDWIDTH (IHF)	6 Hz to 60 kHz at 8 ohms (Total Harmonic Distortion 0.05%)
DUMPING FACTOR (IHF)	More than 100 (1 kHz, 8 ohms)
FREQUENCY RESPONSE	DC to 100 kHz +0 dB, −0.5 dB
INPUT SENSITIVITY/IMPEDANCE	1 V/47 kohms
OUTPUT SPEAKERS HEADPHONE	 A, B (4 to 16 ohms)/A+B (8 to 16 ohms) 8 to 16 ohms
SUBSONIC FILTER	12 dB/oct. at 5 Hz
MISCELLANEOUS	
SEMICONDUCTORS	Transistors 27, Diodes 47, FETs 2. ICs 7
POWER REQUIREMENTS	120 V, 60 Hz for U.S.A. and Canada Models 220 V, 50 Hz for Europe except UK Models 240 V, 50 Hz for UK and Australia Models 110/120/220/240V, 50/60 Hz internally Switchable for other countries Models
POWER CONSUMPTION	300 W
DIMENSIONS (W x H x D)	440 x 78 x 373 mm (17.3 x 3.1 x 14.7 inches)
WEIGHT	6.7 kg (14.7 lbs)

*** For improvement purposes, specifications and design are subject to change without notice.**

II. DISMANTLING OF UNIT

In case of trouble, etc. necessitating dismantling, please dismantle in the order shown in the photographs. Reassemble in reverse order.

1



SCREWS

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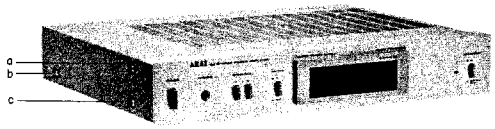

SCREWS

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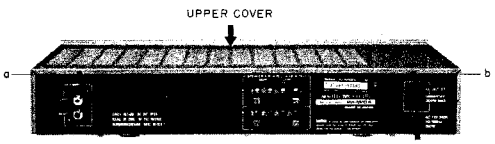

SCREWS

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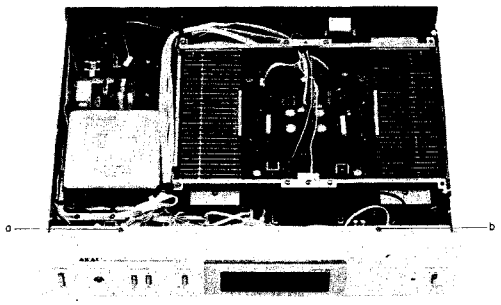

SCREWS

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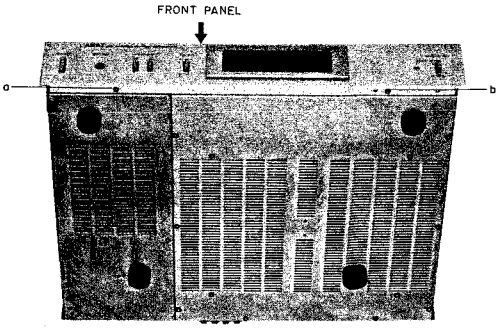

SCREWS

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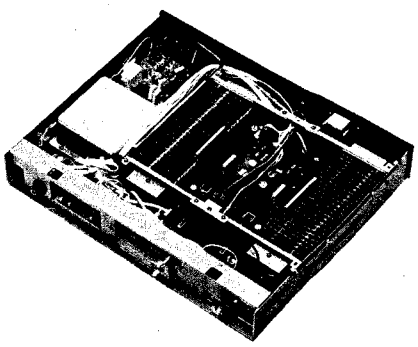


III. CONTROLS

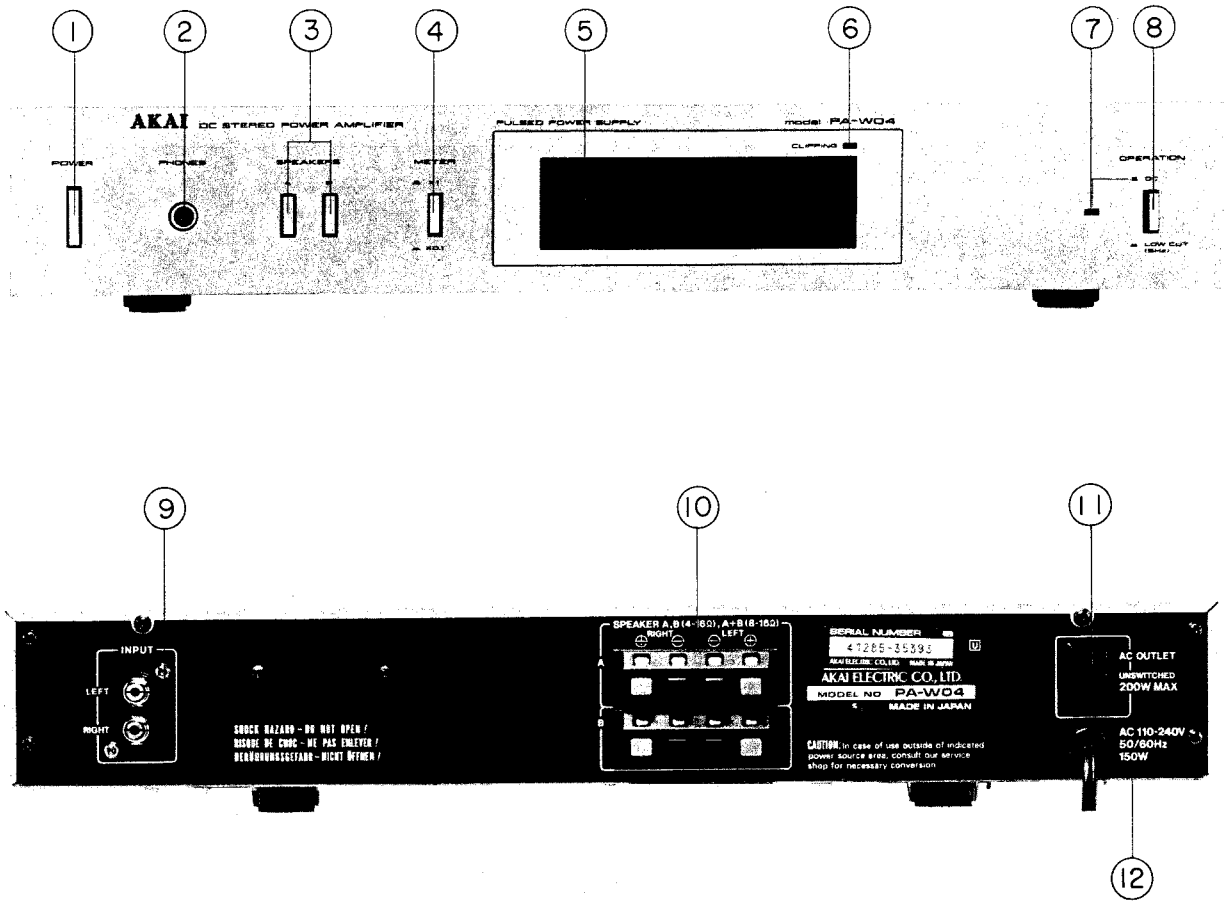


Fig. 1 Controls

1. POWER SWITCH
2. HEADPHONE JACK
3. SPEAKER SYSTEM SELECTOR SWITCHES
4. METER SWITCH
5. FLD BAR METER
6. CLIPPING INDICATOR
7. DC OPERATION INDICATOR
8. DC/LOW CUT OPERATION SWITCH
9. INPUT JACKS
10. SPEAKER OUTPUT JACKS FOR A, B SPEAKER SYSTEMS
11. EXTRA AC OUTLETS (Some models are not equipped with this facility)
12. AC CORD (Some models are equipped with an AC Inlet instead of an AC cord. Connect with an appropriate power cord.)

IV. PRINCIPAL PARTS LOCATION

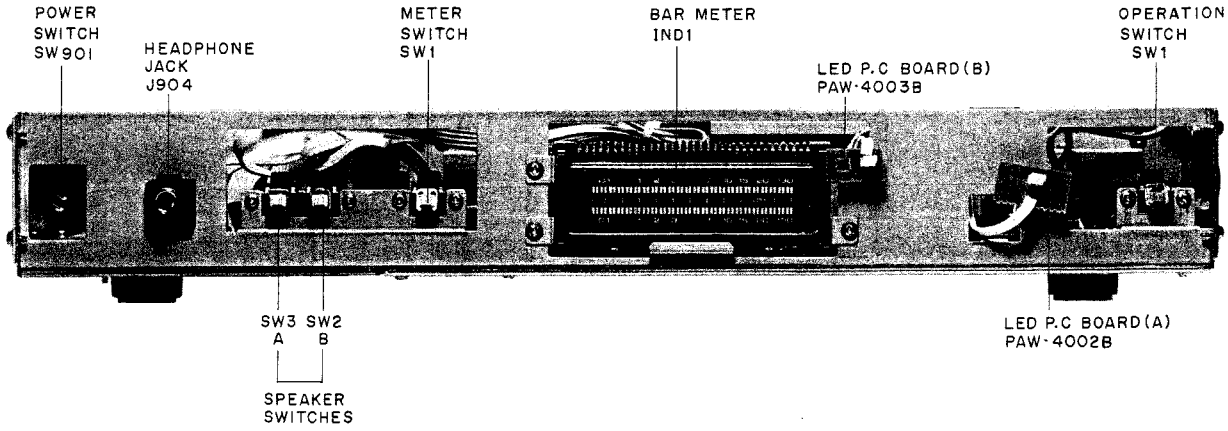


Fig. 2 Front View

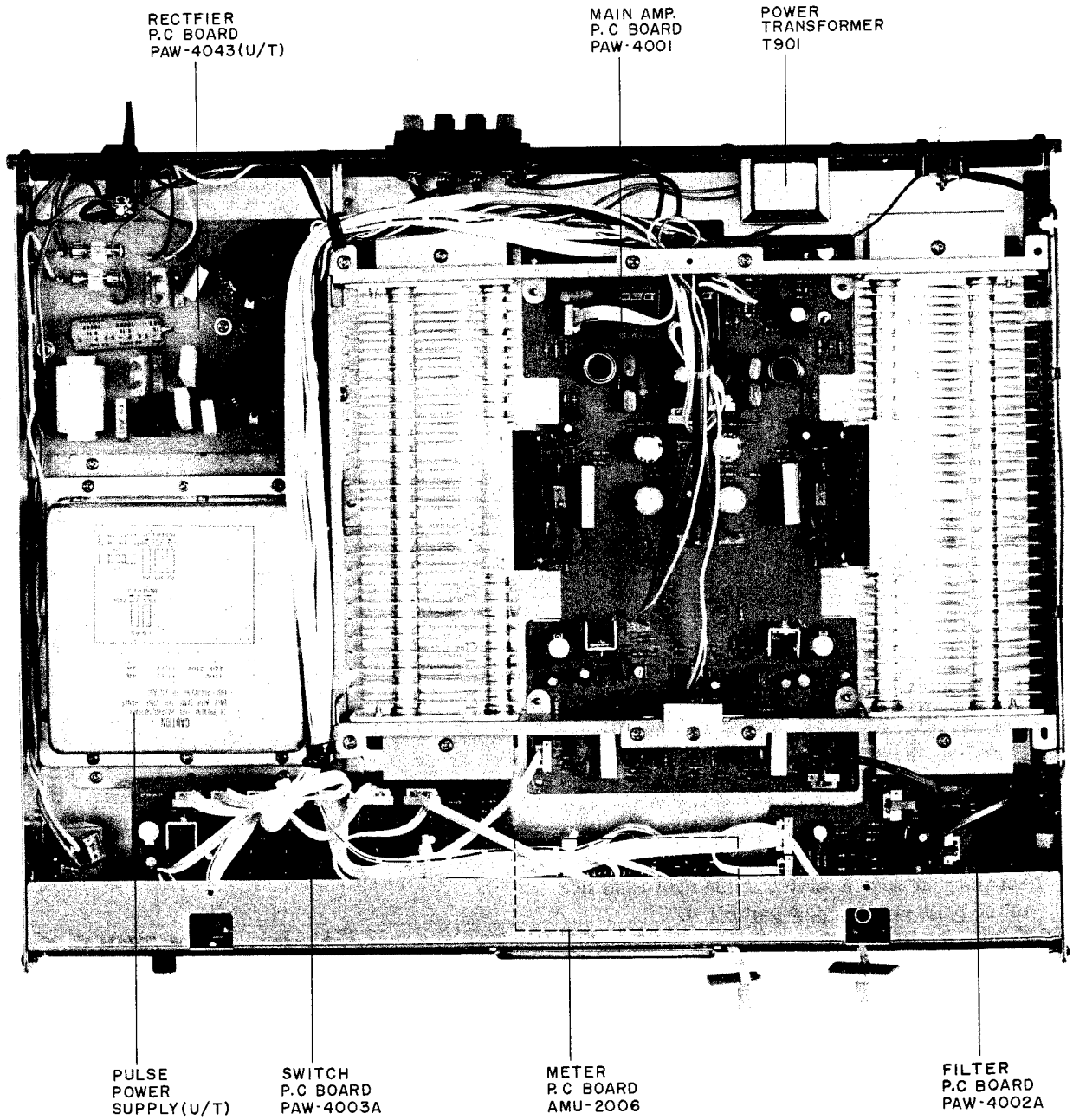


Fig. 3 Top View

V. VOLTAGE CONVERSION

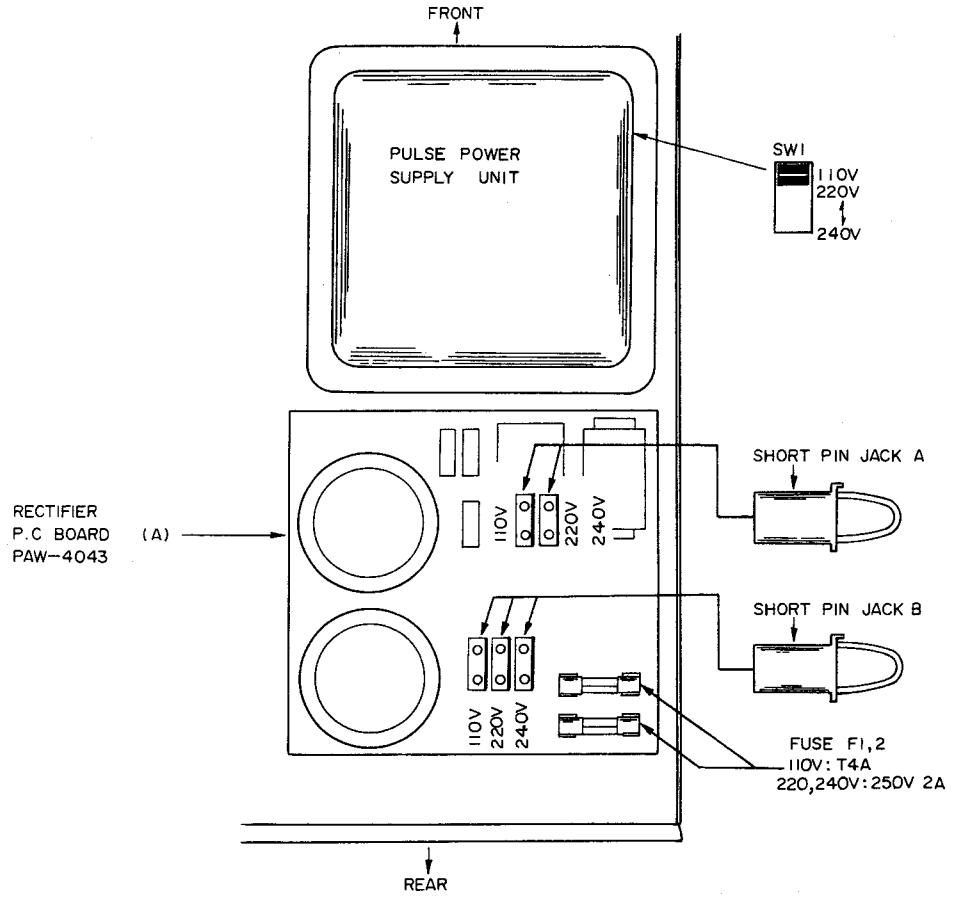


Fig. 4 Voltage Conversion (U/T Model)

1. U/T Model (Refer to Fig. 4)

1) Switch OFF the power supply and remove the plug from mains supply.
2) Loosen holding screws and remove top panel.
3) Align the short pin jacks A and B with the position for each voltage area as shown in Fig. 4 and then plug in.
4) Set the slide switch located at the right hand side of the pulse power supply unit Fig. 4.
5) Change the fuses, 4 A for 110 V and 2 A for 220 V and 240V.

2. Models other than U/T

No voltage conversion.

VI. ADJUSTMENT

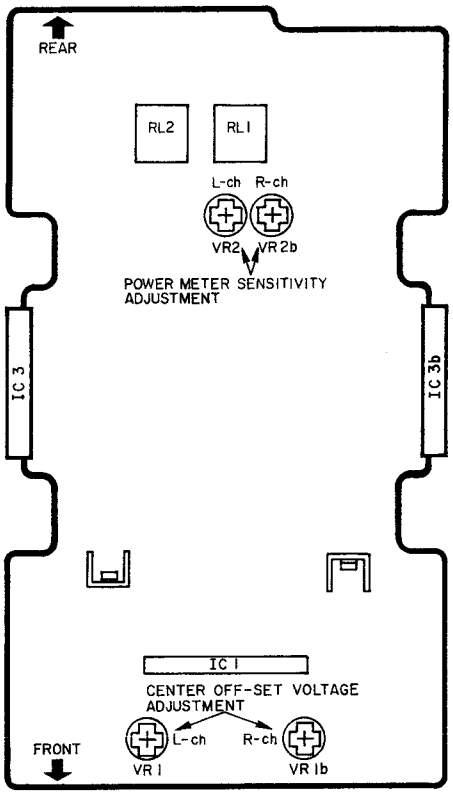


Fig. 5 Main Amp P.C Board (PAW-4001)

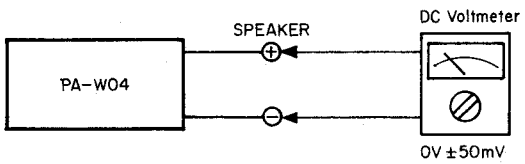


Fig. 6 Instrument Connections

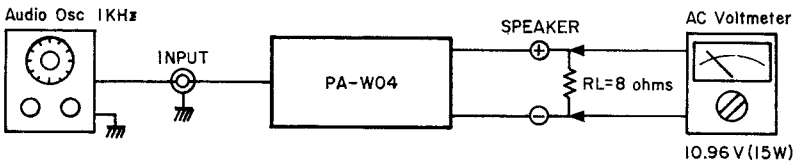


Fig. 7 Instrument Connections

1. CENTER OFF-SET VOLTAGE ADJUSTMENT (Refer to Figs. 5, 6)

Connect the Digital Voltmeter or DC Voltmeter between the SPEAKER terminal.
Adjust the VR 1 (1 kohms) so that Voltmeter reading is 0 ± 50 mV.

2. POWER METER SENSITIVITY ADJUSTMENT (Refer to Figs. 5, 7)

Connect a load resistor (R_L=8 ohms) to the SPEAKER terminal and input 1 kHz through the INPUT terminal, adjust VR 2 (2.2 kB) on the Main Amp P.C Board until the voltmeter at both ends of the load resistor is 10.96 V were the POWER METERs indicate 15 watts.

VII. CLASSIFICATION OF VARIOUS P.C BOARDS

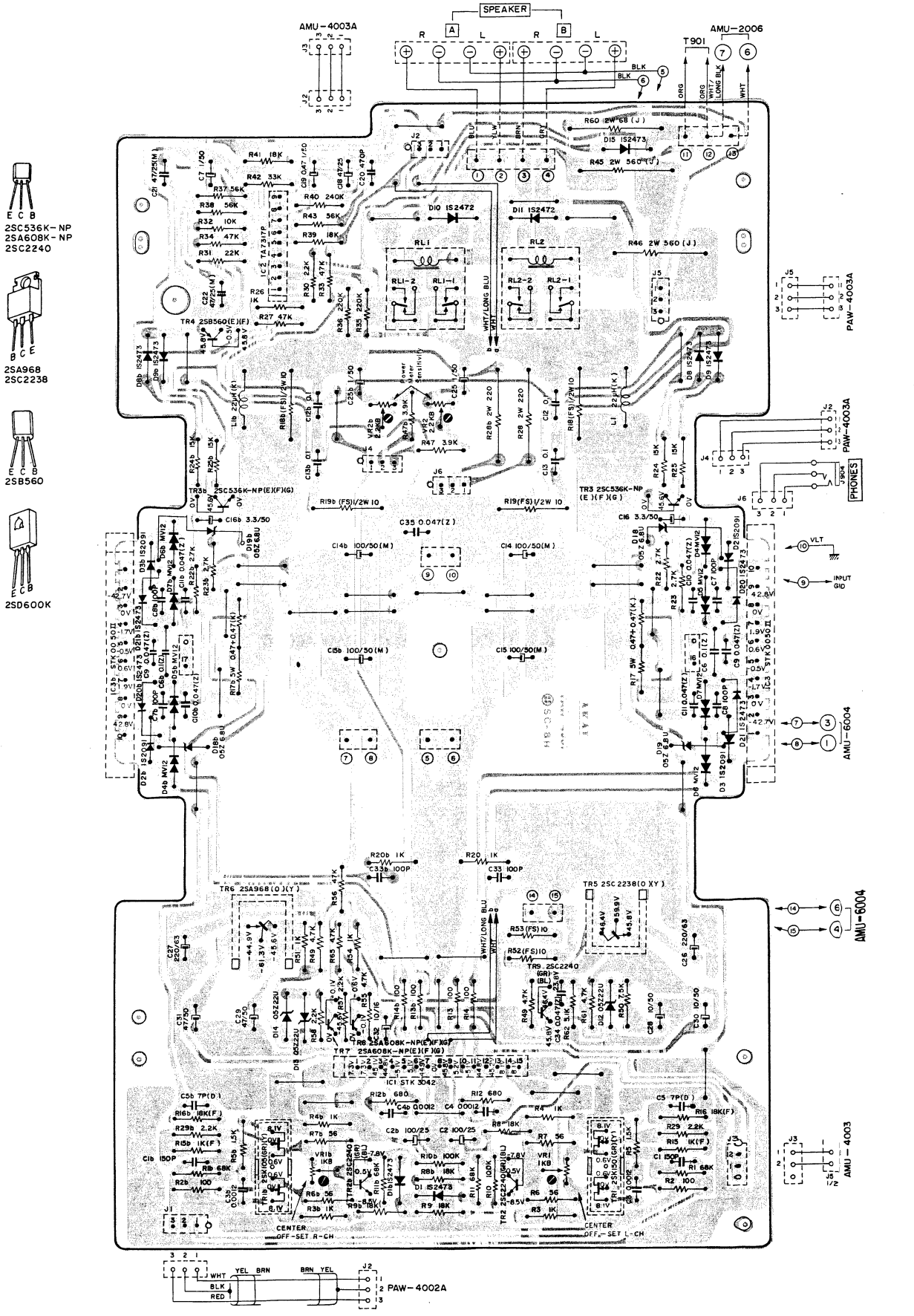
1. P.C BOARD TITLES AND IDENTIFICATION NUMBERS

P.C Board Title	P.C Board Number
Main Amp P.C Board	PAW-4001
Filter P.C Board	PAW-4002A
LED P.C Board (A)	PAW-4002B
Switch P.C Board	PAW-4003A
LED P.C Board (B)	PAW-4003B
Meter P.C Board	AMU-2006
Pulse Power Supply P.C Board	AMU-6004A
Osc Trans P.C Board	PAW-4042B
Rectifier P.C Board (A) (U/T)	PAW-4043
Rectifier P.C Board (B) (CSA, AAL)	PAW-4044
Rectifier P.C Board (C) (CEE, UK, SAA)	PAW-4045

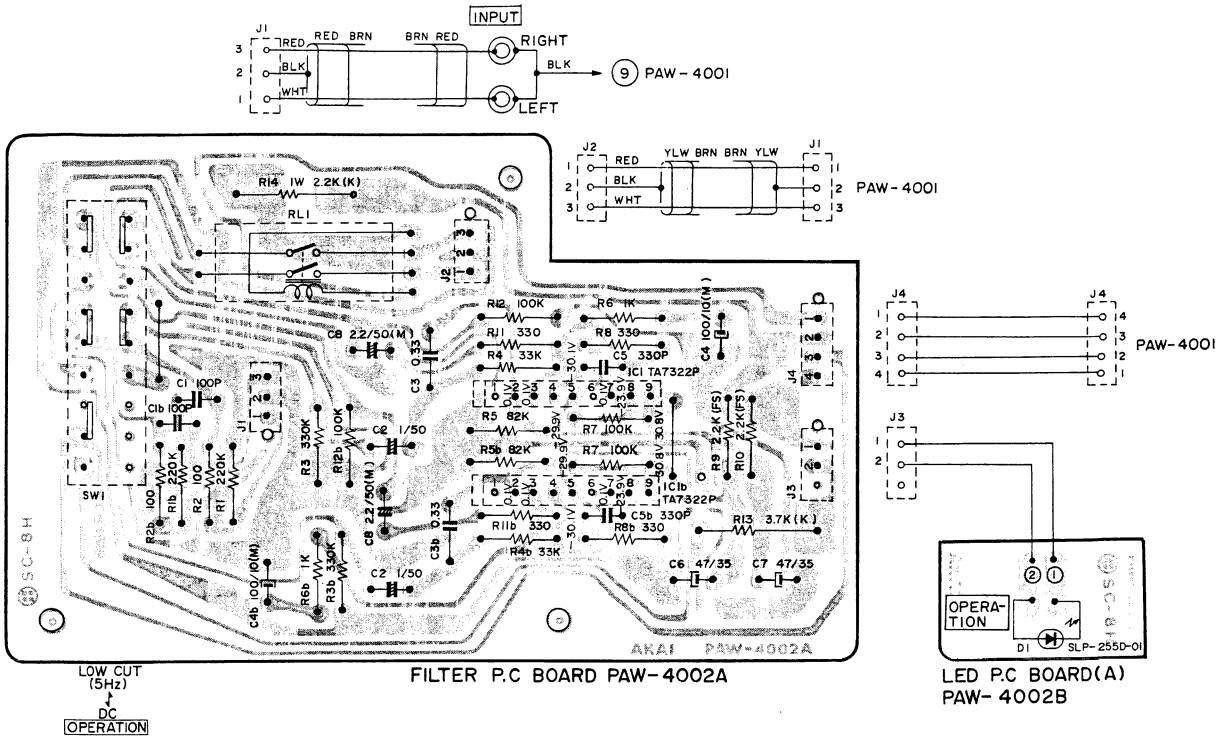
Chart-1

2. COMPOSITION OF VARIOUS P.C BOARDS

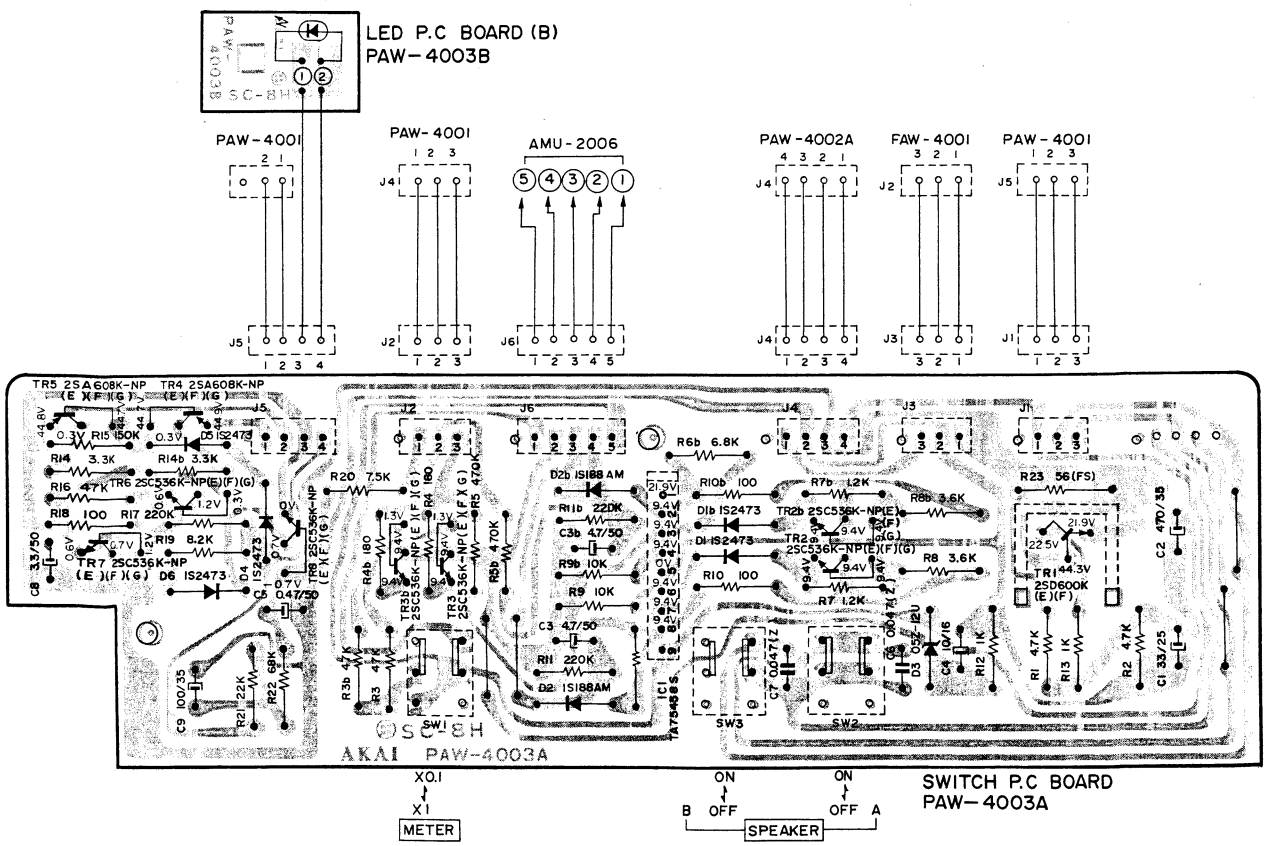
1) MAIN AMP P.C BOARD PAW-4001



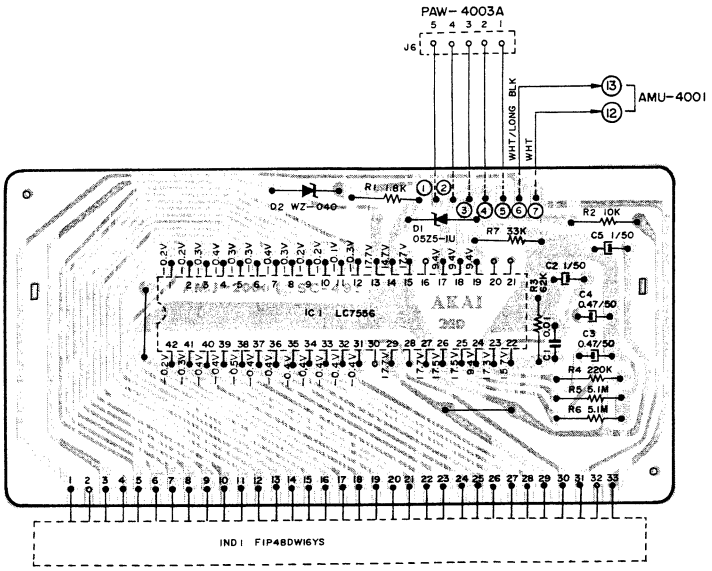
2) FILTER P.C BOARD PAW-4002A and LED P.C BOARD (A) PAW-4002B



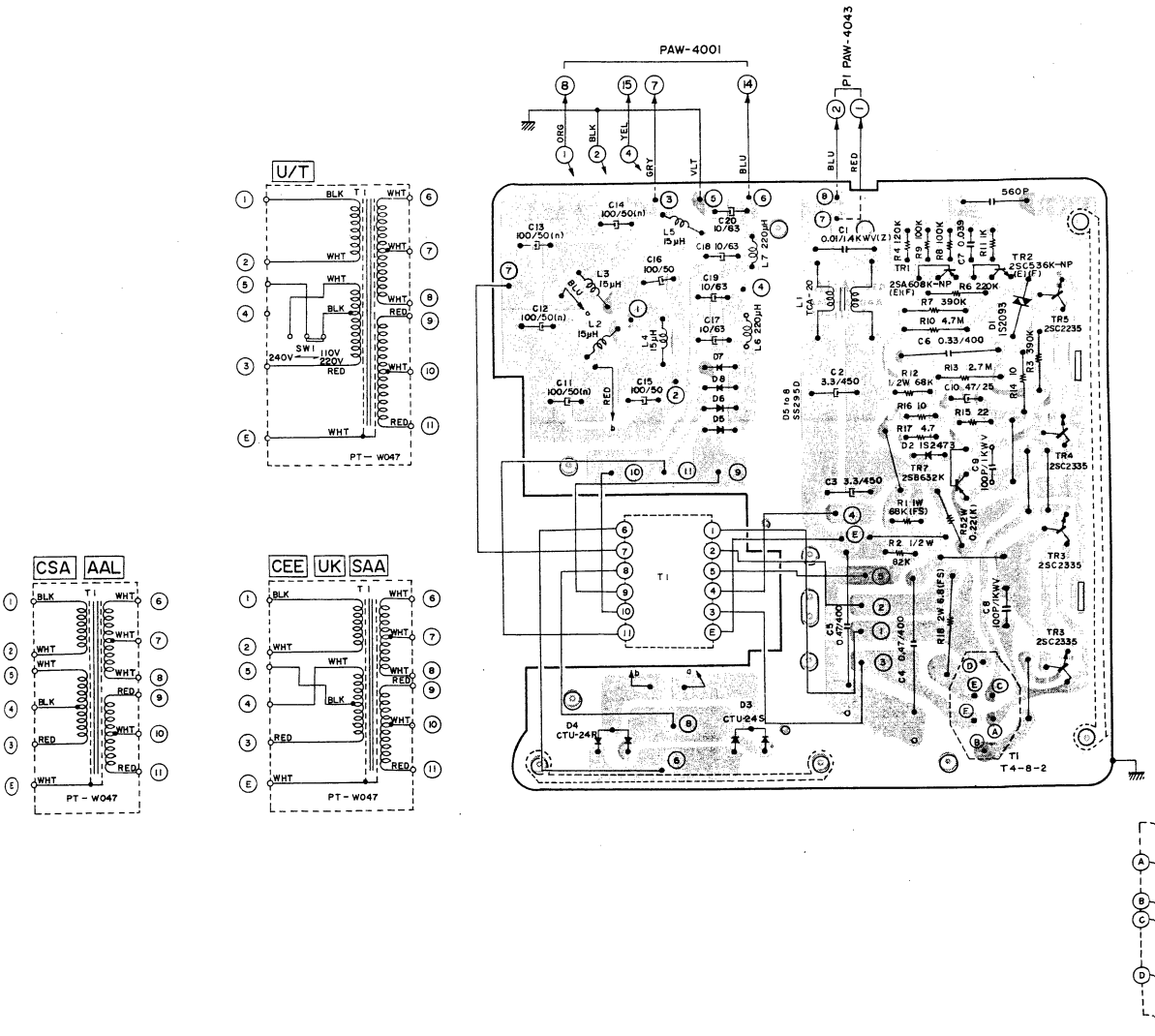
3) SWITCH P.C BOARD PAW-4003A and LED P.C BOARD (B) PAW-4003B



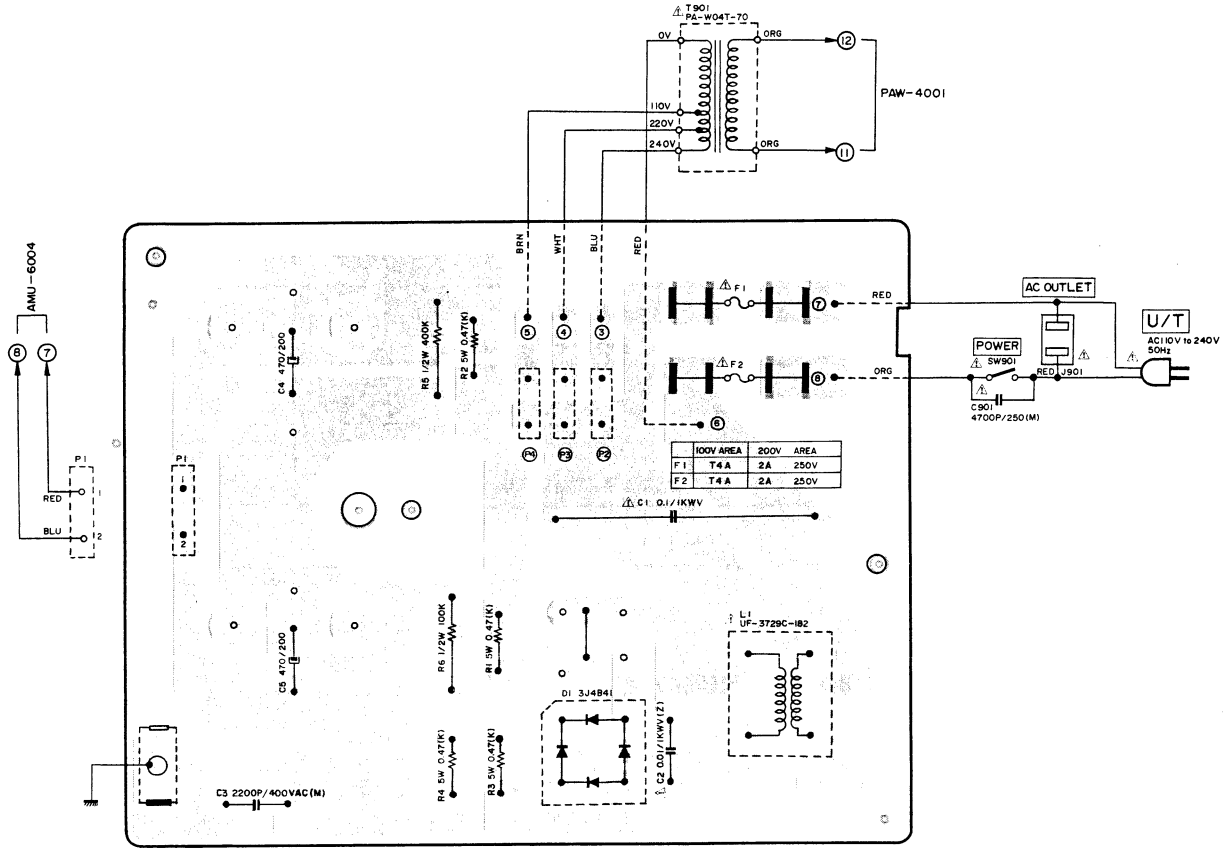
4) METER P.C BOARD AMU-2006 (2ED)



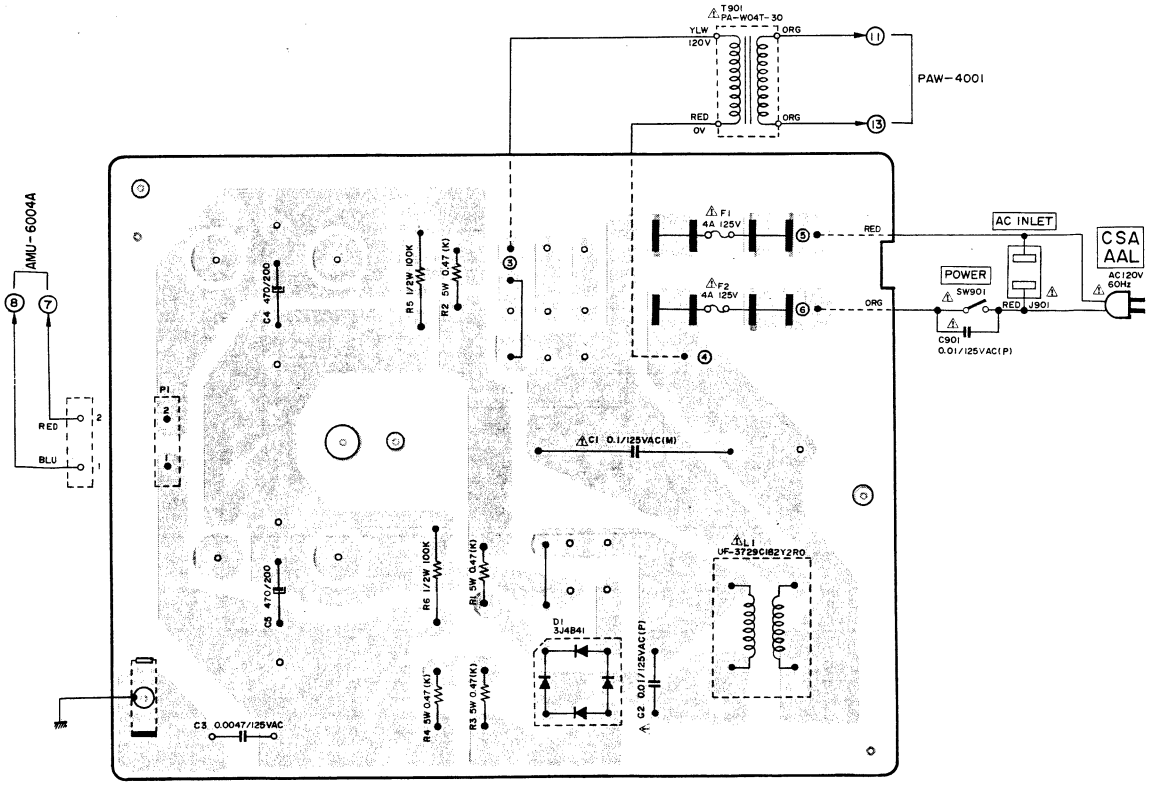
5) PULSE POWER SUPPLY P.C BOARD AMU-6004A



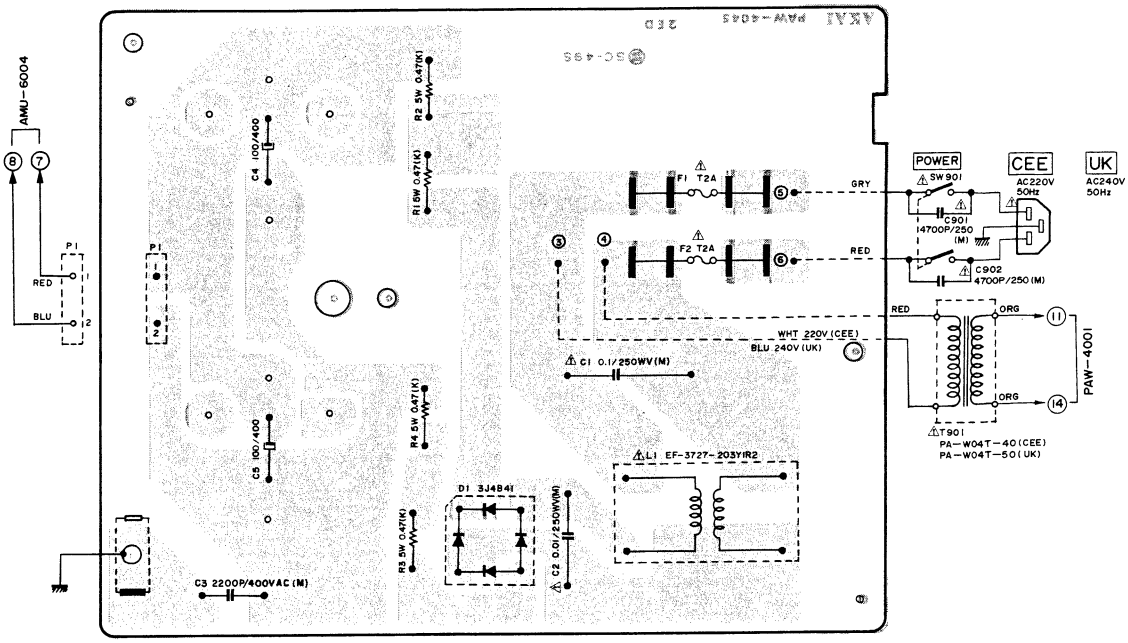
6) RECTIFIER P.C BOARD (A) PAW-4043 (2ED) (U/T)



7) RECTIFIER P.C BOARD (B) PAW-4044 (2ED) (CSA, AAL)



8) RECTIFIER P.C BOARD (C) PAW-4045 (2ED) (CEE, UK, SAA)



WARNING: ⚠INDICATES SAFETY CRITICAL COMPONENTS. FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS

AVERTISSEMENT: ⚠IL INDIQU LES COMPOSANTS CRITIQUES DE SÛRETÉ. POUR MAINTENIR LE DEGRE DE SECURITE DE L'APPAREIL NE REMPLACER LES CONPOSANTS DONT LE FONCTIONNEMENT EST CRITIQUE POUR LA SECURITE QUE PAR DES PIECES RECOMMANDEES PAR LE FABRICANT

SECTION 2

PARTS LIST

TABLE OF CONTENSTS

I. MODEL PR-A04
1. RECOMMENDED SPARE PARTS LIST 36
2. PRE AMP P.C BOARD (PRA-4001A) BLOCK 38
3. TONE CONTROL P.C BOARD (PRA-4002A) BLOCK 38
4. FUSE P.C BOARD (PRA-4003/PRA-4004/PRA-4005) BLOCK 39
5. ASSEMBLY BLOCK 40
6. FINAL ASSEMBLY BLOCK 42

II. MODEL PA-W04
1. RECOMMENDED SPARE PARTS LIST 44
2. MAIN AMP P.C BOARD (PAW-4001) BLOCK 46
3. RECTIFICATION P.C BOARD (PAW-4043/PAW-4044/PAW-4045) BLOCK 46
4. PULSE POWER P.C BOARD (PAW-4042A/PAW-6004A) BLOCK 47
5. SW. P.C BOARD (PAW-4003A) BLOCK 47
6. FILTER P.C BOARD (PAW-4002A) BLOCK 47
7. BAR METER P.C BOARD (AMU-2006) BLOCK 47
8. ASSEMBLY BLOCK 48
9. FINAL ASSEMBLY BLOCK 50

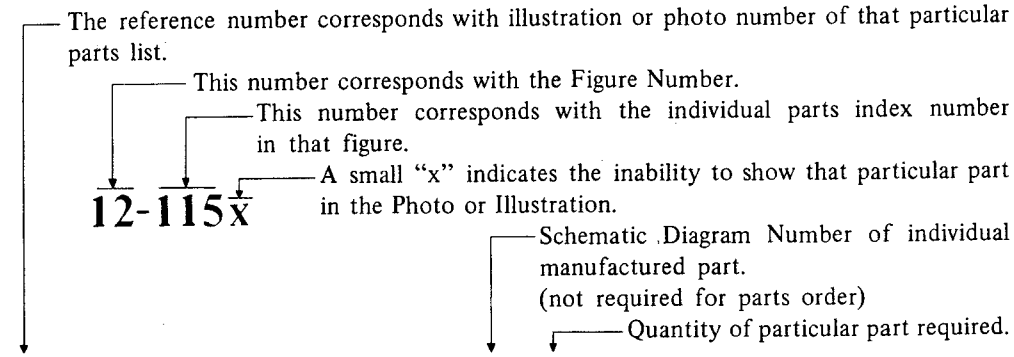
INDEX
1. MODEL PR-A04 51
2. MODEL PA-W04 52

Resistor and Capacitor which is not listed in this parts list, please refer to COMMON LIST FOR SERVICE PARTS.

31-32 leer

HOW TO USE THIS PARTS LIST

1. This parts list is compiled by various individual blocks based on assembly process.
2. When ordering parts, please describe parts number, serial number, and model number in detail.
3. How to read List


The reference number corresponds with illustration or photo number of that particular parts list.
This number corresponds with the Figure Number.
This number corresponds with the individual parts index number in that figure.
A small "x" indicates the inability to show that particular part in the Photo or Illustration.
12-115x
Schematic Diagram Number of individual manufactured part.
(not required for parts order)
Quantity of particular part required.

Ref. No.	Parts No.	Description	Schematic No.	Q'ty
		FLYWHEEL BLOCK #13		
12-115x	800425	Flywheel Block Assy. Comp.	RDG #13	1
12-116	244506	Flywheel Only	RD-233	1
12-117x	244754	Felt, Flywheel	RD-275	1
12-118	251324	Main Metal Case	RD-236	1
12-119	253080	Main Metal	RD-237	1

4. The symbol numbers shown on the P.C. Board list can be matched with the Composite Views of Components of the Schematic Diagram or Service Manual.
5. Please utilize separate "Common List for Service Parts" for Resistor Parts orders.
6. The shape of the parts and parts name, etc. can be confirmed by comparing them with the parts shown on the Electrical Parts Table of P.C. Board.
7. Both the kind of part and installation position can be determined by the Parts Number. To determine where a parts number is listed, utilize Parts Index at end of Parts List.
   It is necessary first of all to find the Parts Number. This can be accomplished by using the Reference Number listed at right of parts number in the Parts Index. (meaning of ref. no. outlined in Item 3 above).
8. Utilize separate "Price List for Parts" to determine unit price. The most simple method of finding parts Price is to utilize the reference number.

CAUTION:
1. When placing an order for parts, be sure to list the parts no. model no., and description. There are instances in which if any of this information is omitted, parts cannot be shipped or the wrong parts will be delivered.
2. Please be careful not to make a mistake in the parts no. If the parts no. is in error, a part different from the one ordered may be delivered.
3. Because parts number and parts unit supply in the Preliminary Service Manual (Basic Parts List) may be partially changed, please use this parts list for all future reference.

WARNING: ⚠ INDICATES SAFETY CRITICAL COMPONENTS. FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS.

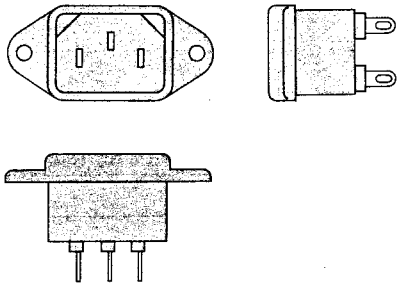
AVERTISSEMENT: ⚠ IL INDIQU LES COMPOSANTS CRITIQUES DE SURETE. POUR MAINTENIR LE DEGRE DE SECURITE DE L'APPAREIL NE REMPLACER LES COMPOSANTS DONT LE FONCTIONNEMENT EST CRITIQUE POUR LA SECURITE QUE PAR DES PIECES RECOMMANDEES PAR LE FABRICANT.

AC INLET SYSTEM

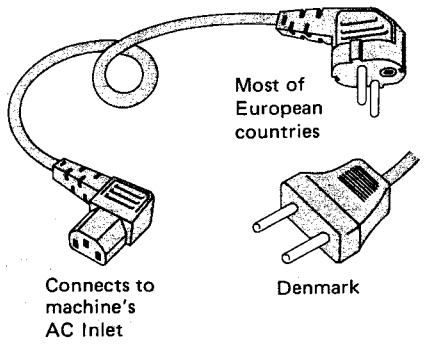
This model is equipped with an AC INLET SYSTEM. Please refer to the AC INLET SYSTEM CHART below for the specific type. By the AC INLET SYSTEM, AC (mains) cord can be connected to and disconnected from the model because the model is provided with socket exclusively for AC (mains) cord on its main body.
Please note, however, that certain models are not equipped with this system and has a built-in AC (mains) cord as before.

AC INLET SYSTEM CHART

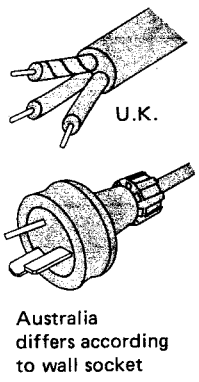
CLASS I



Picture 1
AC INLET to be installed on machines

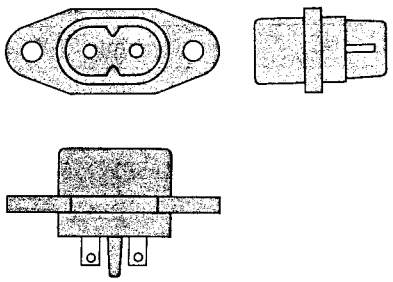


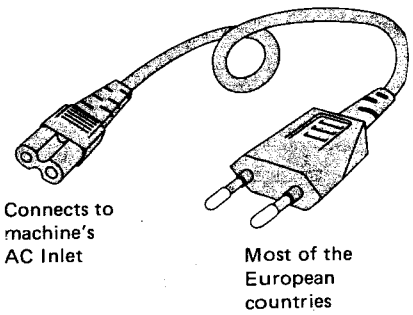
Picture 2
AC (mains) cord

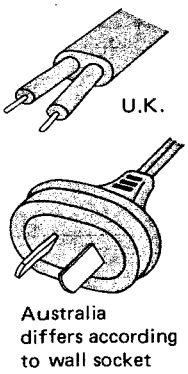


CLASS II

▣ This mark indicating double insulation will be attached to machine's rear panel







Parts List for AC (mains) Cord Set

Standard		Description	Type of AC Inlet	Parts No.
Class I	CEE	Cord Set CEE (3 cores)	3P	EW302993
	BEAB	Cord Set BEAB (3 cores)	3P	EW302994
	SAA	Cord Set SAA (3 cores)	3P	EW302996
	U/T	Cord Set U/T (3 cores)	3P	EW302646
Class II	CEE	Cord Set CEE (2 cores)	2P	EW638144
	BEAB	Cord Set BEAB (2 cores)	2P	EW302995
	SAA	Cord Set SAA (2 cores)	2P	EW302991
	U/T	Cord Set U/T (2 cores)	2P	EW302997

I. MODEL PR-A04

1. RECOMMENDED SPARE PARTS LIST

Because, if the parts listed below are on hand, almost any repair can be accomplished, we suggest that you stock these Recommended Spare Parts Items.

Parts No.	Description	Notes
BA320436	Pre Amp P.C Board Comp. PR-A04	
BA320440	Tone Control P.C Board Comp. PR-A04	
BT324899	⚠ Power Trans. PR-A04T-30	CSA, AAL
BT324907	⚠ Power Trans. PR-A04T-40	CEE
BT324908	⚠ Power Trans. PR-A04T-50	UK, SAA
BT324906	⚠ Power Trans. PR-A04T-70	U/T
EC321302	⚠ Ceramic/C. E 0.01μF (Z) 250VAC	U/T
EC314688	⚠ Ceramic/C. DE7150 FZ 0.01μF (P) 125WV	CSA, AAL
EC301320	⚠ MP/C. 4700PF (M) 250WV	CEE, UK, SAA
ED322773	LED SLP-255D-01	
ED300924	Silicon Diode GP08D	
ED316143	Silicon Diode 1S2473-HS	
ED324912	Silicon Stack 1D4B41	
ED323057	Silicon Varister MV12	
ED306723	Zener Diode 05Z-10U	
ED324936	Zener Diode 05Z-16U	
ED324937	Zener Diode 05Z-6.8U	
EF315334	⚠ Fuse 250mA 125V	CSA, AAL
EF309391	⚠ Fuse 800mA 125V	CSA, AAL
EF309388	⚠ Fuse 800mA 250V	U/T
EF300588	⚠ Fuse (EAWK)	CEE, UK, SAA
EF300586	⚠ Fuse (EAWK) 250MAT	CEE, UK, SAA
EF300590	⚠ Fuse (EAWK) 400MAT	CEE, UK, SAA
EI323054	IC TA7322P	
EJ301513	⚠ Inlet 2P	CEE, UK, SAA
EJ240535	⚠ 3-Throw AC Outlet	U/T, CSA, AAL
EJ698051	DIN Jack	
EJ293365	Pin Jack 4P	
EJ324932	Pin Jack 4P	
EJ293376	Pin Jack 6P	
EL324910	Lamp (Cord) 8V 50mA (400mm x 2)	
EP323350	Relay L-23M DC12V	
ES324162	⚠ Push SW. SDG-1P TV-5	U/T
ES679566	⚠ Push SW. SDG-1P TV-5	CSA, AAL
ES310839	⚠ Push SW. SDG1P-E 5A/80A 250V	CEE, UK, SAA
ES324940	Push SW. J-K2111	
ES323369	Remote Rotary Slide SW. SRZWM6	
ES324916	Rotary Selector SRZWM6	
ES324939	Rotary Slide SW. SRZW	
ES324917	Rotary Slide SW. SRZW45N	

Parts No.	Description	Notes
ES324930	Rotary SW. SBU1024N	
ES324931	Rotary SW. SR-26N 2-4-5	
ET311792	FET 2SK150 (GR) (Y)	
ET311791	Transistor 2SA968 (O) (Y)	
ET305463	Transistor 2SA907 (GR) (BL)	
ET301165	Transistor 2SB631K (E) (F)	
ET311790	Transistor 2SC2238 (O) (Y)	
ET307195	Transistor 2SC2240 (GR) (BL)	
ET322775	Transistor 2SC536K-NP (E) (F) (G)	
ET240671	Transistor 2SD438 (E) (F) RED	
ET300931	Transistor 2SD600K (E) (F)	
EV618052	Semi-Fixed/Vol. CR19R 1 KB	
EV324942	Single-Axial 2-Throw/Vol. AP25GN (C.S) 100KYX2	
EV324941	Single-Axial 2-Throw/Vol. AP25GN (C.0) 100KYX2	
EV324915	Slide 2-Throw/Vol. VJ608GPVN-250KZX2	
EV324914	Slide 4-Throw/Vol. WSDA250KX2, 20KX2	
EW306428	⚠ AC Cord (U/T)	U/T
EW305691	⚠ AC Cord CUL	CSA, AAL
EW302995	⚠ AC Cord Set BEAB 2 Cores	UK
EW315767	⚠ AC Cord Set CEE 2 Cores	CEE
EW322401	⚠ AC Cord Set SAA 2 Cores	SAA

2. PRE AMP P.C BOARD (PRA-4001A) BLOCK

Symbol No.	Parts No.	Description	Schematic No.
2-1	BA320436	Pre Amp P.C Board Comp. PR-A04	PRA-4001A
2-IC1	EI323054	IC TA7322P	45-8-419
2-TR1	ET305463	Transistor 2SA970(GR)(BL)	45-1-303
2-TR2,3	ET307195	Transistor 2SC2240(GR)(BL)	45-1-302
2-TR4	ET305463	Transistor 2SA970(GR)(BL)	45-1-303
2-TR5	ET311790	Transistor 2SC2238(O)(Y)	45-1-339
2-TR6	ET311791	Transistor 2SA968(O)(Y)	45-1-338
2-TR7	ET307195	Transistor 2SC2240(GR)(BL)	45-1-302
2-TR8	ET305463	Transistor 2SA970(GR)(BL)	45-1-303
2-TR9	ET307195	Transistor 2SC2240(GR)(BL)	45-1-302
2-TR10	ET305463	Transistor 2SA970(GR)(BL)	45-1-303
2-TR11	ET300931	Transistor 2SD600K(E)(F)	45-1-278
2-TR12	ET301165	Transistor 2SB631K(E)(F)	45-1-277
2-TR13	ET322775	Transistor 2SC536K-NP(E)(F)(G)	45-1-362
2-TR14	ET240671	Transistor 2SD438 (E) (F) RED	45-1-252
2-TR15	ET311792	FET 2SK150(GR)(Y)	45-12-22
2-D1	ED323057	Silicon Varister MV12	45-10-16
2-D2	ED316143	Silicon Diode 1S2473-HS	45-3-53
2-D3	ED300924	Silicon Diode GP08D	45-2-68
2-D4,5	ED324936	Zener Diode 05Z-16U	45-6-76
2-D6,7	ED306723	Zener Diode 05Z-10U	45-6-76
2-D8	ED324937	Zener Diode 05Z-6.8U	45-6-76
2-SW1	ES324931	Rotary SW. SR-26N 2-4-5	25-6-195
2-SW2	ES324930	Rotary SW. SBU1024N	25-6-196
2-SW3,4	ES323369	Remote Rotary Slide SW. SRZWM6	25-14-503
2-J2	EJ324932	Pin Jack 4P	31-5-165
2-J3,4	EJ293365	Pin Jack 4P	31-1-197
2-J5	EJ293376	Pin Jack 6P	31-1-198
2-J6	EJ698051	DIN Jack	31-1-158
2-TM901,902	EJ325358	Earth Terminal	32-1-115
2-VR1	EV618052	Semi-Fixed/Vol. CR19R 1 kB	36-28-4
2-RL1	EP323350	Relay L-23M DC 12V	47-2-34
2-R20,21	ER306879	Carbon/R F 1/2W 220 ohms (J)	35-11-27
2-R27,28	ER324934	Carbon/R. F 1/4WS 22 ohms (J)	35-11-30
2-R43	ER324935	Carbon/R. F 1/2WS 18 ohms (J)	35-11-27
2-R57,58	ER322787	Carbon/R. F 1/4WS 10 ohms (J)	35-11-30
2-C1	EC324896	Styrol/C. 400PF(J) 50WV	24-11-18
2-C2	EC324920	Styrol/C. 200PF(J) 50WV	24-11-18
2-C3	EC324921	Styrol/C. 100PF(J) 50WV	24-11-18
2-C11,12	EC324922	NP/C. 4.7μF(M) 50WV	24-17-35
2-C15	EC324921	Styrol/C. 100PF(J) 50WV	24-11-18
2-C19	EC324102	Polypropylene/C. (Vert.) 0.02μF(G) 50W	24-22-10
2-C20	EC324103	Polypropylene/C. (Vert.) 0.0697μF(G) 50WV	24-22-10
2-C21	EC324922	NP/C. 4.7μF(M) 50WV	24-17-35
2-C42	EC324115	Solid Aluminum/C. 2.2μF(M) 25WV	24-19-3
2-2	SP324849	Sub Rear Panel (A)	PRA-4011
2-3	ZW698308	Nylon Rivet (NRB) 3x5.5 (Black)	2-7-54
2-4	ZW652408	Washer (SPC) D3.2x10x0.5t	
2-5	ZS522865	Tapping Screw, #2 BR 3x12 (Black)	
2-6	ZS325495	Tapping Screw, #2 BR 3x6	

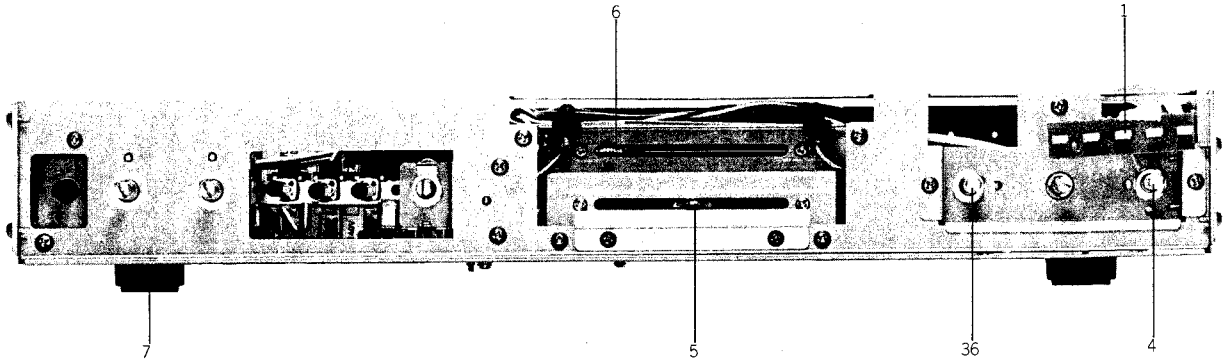
3. TONE CONTROL P.C BOARD (PRA-4002A) BLOCK

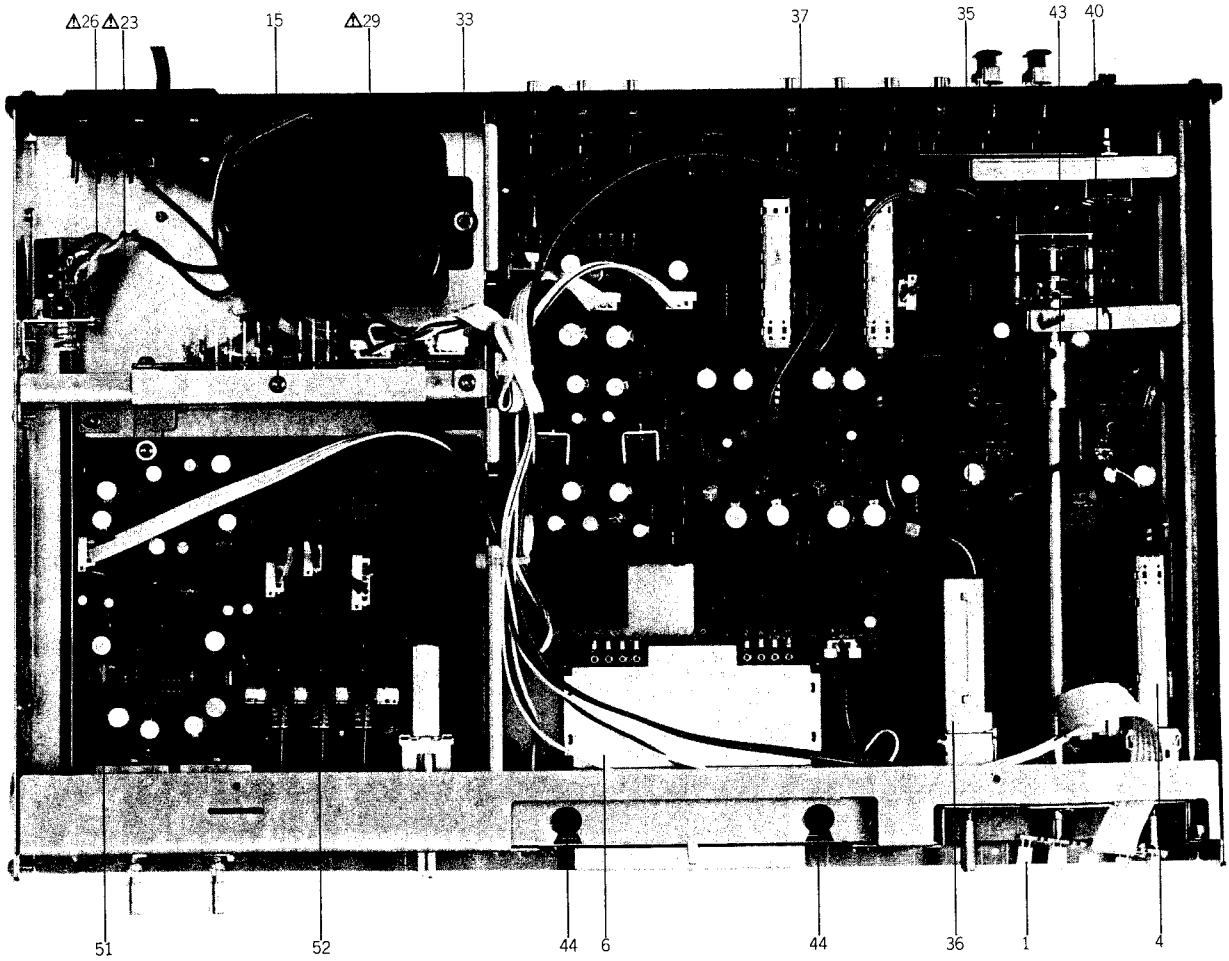
Symbol No.	Parts No.	Description	Schematic No.
3-1	BA320440	Tone Control P.C Board Comp. PR-A04	PRA-4047
3-IC1,2	EI323054	IC TA7322P	45-8-419
3-SW1	ES324940	Push SW. J-K2111	25-5-374
3-SW2	ES324939	Rotary Slide SW. SRZW	25-6-199
3-SW3,4	ES324940	Push SW. J-K2111	25-5-374
3-VR1	EV324941	Single-Axial 2-Throw/Vol. AP25GN (C.0) 100KYX2	36-37-9
3-VR2	EV324942	Single-Axial 2-Throw/Vol. AP25GN (C.S) 100KYX2	36-37-10
3-R14	ER324934	Carbon/R. F 1/4WS 22 ohms (J)	35-11-30
3-R16	ER324934	Carbon/R. F 1/4WS 22 ohms (J)	35-11-30
3-R34	ER324934	Carbon/R. F 1/4WS 22 ohms (J)	35-11-30
3-R36	ER324934	Carbon/R. F 1/4WS 22 ohms (J)	35-11-30
3-C9	EC325272	NP/C. 1μF(M) 50WV	24-17-35
3-C11	EC324924	NP/C. (Vert.) 47μF(M) 25WV	24-17-35
3-C15	EC324924	NP/C. (Vert.) 47μF(M) 25WV	24-17-35
3-C16	EC325272	NP/C. 1μF(M) 50WV	24-17-35
3-C23	EC324926	NP/C. 10μF(M) 50WV	24-17-35

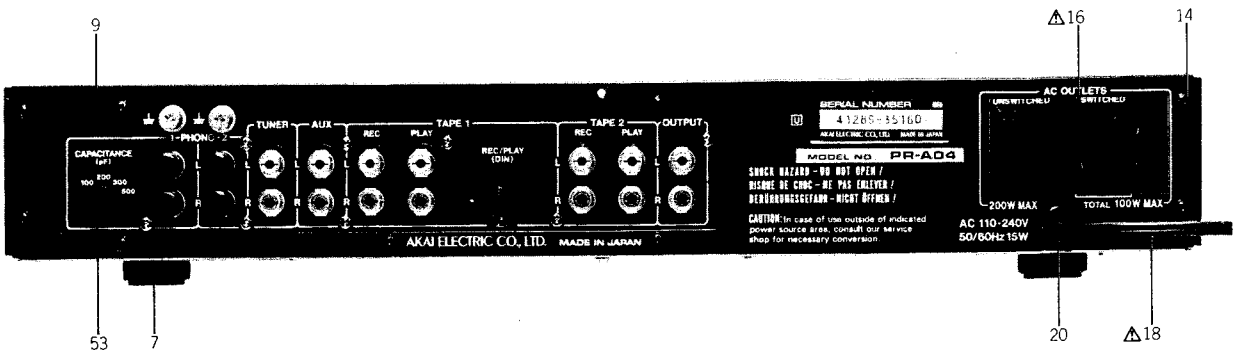
4. FUSE P.C BOARD (PRA-4003/PRA-4004/PRA-4005) BLOCK

Symbol No.	Parts No.	Description	Schematic No.
4-D1	ED324912	Silicon Stack 1D4B41	45-2-100
4-C3	EC326583	Metalized Mylar/C. (Vert.) 0.047μF(K) 400WV	24-16-29

5. ASSEMBLY BLOCK





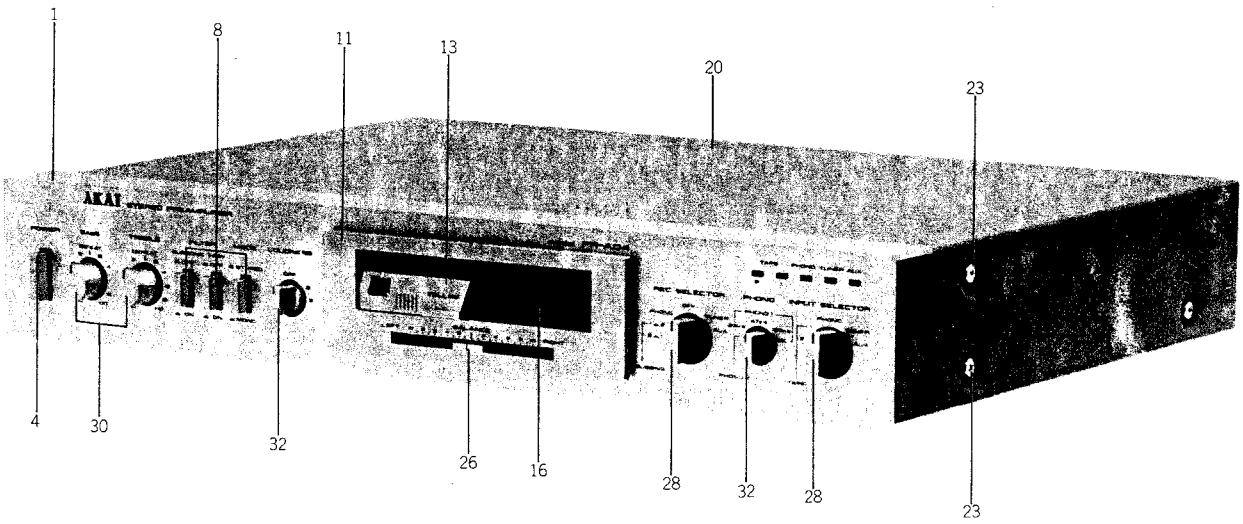


ASSEMBLY BLOCK

Ref. No.	Parts No.	Description	Schematic No.
	LED P.C BOARD BLOCK		
5-1	ED322773	LED SLP-255D-01	45-15-37
5-2x	SE324877	LED Escutcheon	PRA-4038
5-3x	ZS296381	Tapping Screw, #2 BR 2.3×8	
	SW. P.C BOARD BLOCK		
5-4	ES324917	Rotary Slide SW. SRZW45N	25-14-104
	BALANCE P.C BOARD BLOCK		
5-5	EV324915	Slide 2-Throw/Vol. VJ608GPVN-250KZX2	36-27-10
	VOL. P.C BOARD BLOCK		
5-6	EV324914	Slide 4-Throw/Vol. WSDA250KX2, 20KX2	36-37-11
	ASSEMBLY BLOCK		
5-7	SA311742	Circular Foot	PC-2032
5-8x	ZS565942	Tapping Screw, #2 Pan 4×8	
5-9	SP324844	Rear Panel (A) (U/T)	PRA-4009
5-10x	SP324845	Rear Panel (B) (CSA)	PRA-4009
5-11x	SP324846	Rear Panel (C) (AAL)	PRA-4009
5-12x	SP324847	Rear Panel (D) (CEE)	PRA-4010
5-13x	SP324848	Rear Panel (E) (UK, SAA)	PRA-4010
5-14	ZS308846	Tapping Screw, #2 BR 3×8 (Oval Neck)	7-1-69
5-15	ZS325495	Tapping Screw, #2 BR 3×6	
5-16	EJ240535	⚠ 3-Throw AC Outlet (U/T, CSA, AAL)	31-1-173
5-17x	EJ301513	⚠ Inlet 2P (CEE, UK, SAA)	31-1-200
5-18	EW306428	⚠ AC Cord (U/T)	26-3-64
5-19x	EW305691	⚠ AC Cord CUL (CSA, AAL)	26-3-65
5-20	EZ631945	Strain Relief SR-4N-4 (U/T, CSA, AAL)	2-7-49
5-21x	ZW305013	Pop Rivet D3.2 (AAL)	7-6-9
5-22x	ZS300506	S-Tight Screw, Pan 3×5	
5-23	ES324162	⚠ Push SW. SDG-1P TV-5 (U/T)	25-5-377
5-24x	ES679566	⚠ Push SW. SDG1P TV5 (CSA, AAL)	25-5-204
5-25x	ES310839	⚠ Push SW. SDG1P-E 5A/80A 250V (CEE, UK, SAA)	25-5-310

Ref. No.	Parts No.	Description	Schematic No.
5-26	EC321302	⚠ Ceramic/C. E 0.01μF(Z) 250VAC (U/T)	24-5-90
5-27x	EC314688	⚠ Ceramic/C. DE7150 FZ 0.01μF(P) 125WV (CSA, AAL)	24-5-87
5-28x	EC301320	MP/C. 4700PF(M) 250WV (CEE, UK, SAA)	24-9-122
5-29	BT324906	⚠ Power Trans. PR-A04T-70 (U/T)	38-4-831
5-30x	BT324899	⚠ Power Trans. PR-A04T-30 (CSA, AAL)	38-4-828
5-31x	BT324907	⚠ Power Trans. PR-A04T-40 (CEE)	38-4-829
5-32x	BT324908	⚠ Power Trans. PR-A04T-50 (UK, SAA)	38-4-830
5-33	ZS413201	Screw, Pan 4×8	
5-34x	ZW413267	Flange Nut M4	
5-35	EW324919	Remote Wire SWR6204	25-14-304
5-36	ES324916	Rotary Selector SRZWM6	25-14-105
5-37	EW324918	Remote Wire SWR6180	25-14-305
5-38x	ZS319460	Tapping Screw, #2 BR 3×6 Oval Neck	7-1-69
5-39x	ZS498273	Tapping Screw #2, BR 3×8 W=8	
5-40	MS324861	Relay Shaft	PRA-4026
5-41x	ZW322110	Washer (Nylon) D6.1×10×1t	
5-42x	ZW270123	'E' Ring 4M	6-1-9
5-43	TC300422	Joint	AC-3556
5-44	EL324910	Lamp (Cord) 8V 50mA (400mm×2)	28-2-84
5-45x	EF309388	⚠ Fuse 800mA 250V (U/T)	39-1-64
5-46x	EF309391	⚠ Fuse 800mA 125V (CSA, AAL)	39-1-65
5-47x	EF315334	⚠ Fuse 250mA 125V (CSA, AAL)	39-1-65
5-48x	EF300590	⚠ Fuse (EAWK) 400MAT (CEE, UK, SAA)	39-1-60
5-49x	EF300586	⚠ Fuse (EAWK) 250MAT (CEE, UK, SAA)	39-1-60
5-50x	EF300588	⚠ Fuse (EAWK) 200MAT (CEE, UK, SAA)	39-1-60
5-51	TA324862	Push Rod	PRA-4027
5-52	TA322261	Push Rod	AMU-2056
5-53	SK323199	Knob (B)	AMV-4042

6. FINAL ASSEMBLY BLOCK



FINAL ASSEMBLY BLOCK

Ref. No.	Parts No.	Description	Schematic No.
		FRONT PANEL BLOCK	
6-1	BD320448	Front Panel BLK PR-A04	PRA-4052
6-2x	BD320449	Front Panel BLK PR-A04-BL	PRA-4052
6-3x	SE322578	Escutcheon (A)	ATK-2013
6-4	SB322576	Button (A)	ATK-2012
6-5x	SB322577	Button (A-BL)	ATK-2012
6-6x	ZG322579	Spring (A)	ATK-2014
6-7x	SE325061	Escutcheon (A)	ATV-4029
6-8	SB322557	Button	AMU-2044
6-9x	SB322558	Button (BL)	AMU-2044
6-10x	ZG322566	Spring	AMU-2050
6-11	SP324865	Sub Panel	PRA-4030,4031
6-12x	SP324866	Sub Panel (BL)	PRA-4030,4031
6-13	SK320451	Slide Knob (B) Part PR-A04	PRA-4054
6-14x	SK320452	Slide Knob (B-BL) Part PR-A04-BL	PRA-4054
6-15x	ZW270088	'E' Ring 1.9M	6-1-9
6-16	SZ324867	Vol. Scale Plate	PRA-4032
6-17x	ZW301012	Washer D3.2×10×1t	
6-18	ZS322402	Special Tapping Screw, Pan 3×8	7-1-70

Ref. No.	Parts No.	Description	Schematic No.
		FINAL ASSEMBLY BLOCK	
6-19x	ZS447840	Tapping Screw, #2 BR 3×8	
6-20	BC322209	Upper Cover (A)	ATK-2034
6-21x	BC322212	Upper Cover (B) (AAL)	ATK-2034
6-22x	BC322210	Upper Cover (A-BL)	ATK-2034
6-23	ZS322570	S-Tight Screw, Bind 4×8	
6-24x	ZS322580	S-Tight Screw, Bind 4×8 (AAL, BL)	
6-25x	ZS308846	Tapping Screw, #2 BR 3×8 (Oval Neck)	7-1-69
6-26	SK324871	Knob (A)	PRA-4035
6-27x	SK324872	Knob (A-BL)	PRA-4035
6-28	SK324875	Knob (B)	PRA-4037
6-29x	SK324876	Knob (B-BL)	PRA-4037
6-30	SK323042	Knob	AMU-4037
6-31x	SK323043	Knob (BL)	AMU-4037
6-32	SK322555	Knob (C)	AMU-2043
6-33x	SK322556	Knob (C-BL)	AMU-2043
6-34x	EW315767	⚠ AC Cord Set CEE 2 Cores (CEE)	26-3-72
6-35x	EW302995	⚠ AC Cord Set BEAB 2 Cores (UK)	26-3-57
6-36x	EW322401	⚠ AC Cord Set SAA 2 Cores (SAA)	26-3-77

II. MODEL PA-W04

1. RECOMMENDED SPARE PARTS LIST

Because, if the parts listed below are on hand, almost any repair can be accomplished, we suggest that you stock these Recommended Spare Parts Items.

Parts No.	Description	Notes
BA320030	Main Amp P.C Board Comp. PA-W04 (CEE)	CEE, UK, SAA
BA320029	Main Amp P.C Board Comp. PA-W04 (CSA)	CSA, AAL
BA320671	Main Amp P.C Board Comp. PA-W04 (U/T)	
BT325299	⚠ Power Trans. PA-W04T-30	CSA, AAL
BT325300	⚠ Power Trans. PA-W04T-40	CEE
BT325301	⚠ Power Trans. PA-W04T-50	UK, SAA
BT325302	⚠ Power Trans. PA-W04T-70	U/T
BT325267	Pulse Trans. PT-W04T	
EC314688	⚠ Ceramic/C. DE7150 FZ 0.01μF (P) 125WV	CSA, AAL
EC301320	⚠ MP/C. 4700PF (M) 250WV	U/T, CEE, UK, SAA
ED562386	Germanium Diode 1S188AM	
ED322772	LED SLP-155D-01	
ED322773	LED SLP-255D-01	
ED323513	Silicon Diode CTU-24R	
ED323512	Silicon Diode CTU-24S	
ED325275	Silicon Diode S5295D	
ED323056	Silicon Diode 1S2091	
ED214457	Silicon Diode 1S2472	
ED624903	Silicon Diode 1S2473	
ED560913	Silicon Diode 1S2473-VE	
ED316143	Silicon Diode 1S2473-HS	
ED325264	Silicon Stack 3J4B41	
ED323057	Silicon Varister MV12	
ED323573	Trigger Diode 1S2093	
ED322810	Zener Diode WZ-040	
ED323530	Zener Diode 05Z-12U	
ED303156	Zener Diode 05Z-22U	
ED324937	Zener Diode 05Z-6.8U	
ED322774	Zener Diode 05Z5.1U	
EF306950	⚠ Fuse 2A 250V	U/T
EF306957	⚠ Fuse 4A 125V	CSA, AAL
EF300581	⚠ Fuse (EAK) 2AT	CEE, UK, SAA
EI322791	IC LC7556	
EI325303	IC STK-0050 (2)	
EI323563	IC STK-3042	
EI323564	IC TA7317P	
EI323054	IC TA7322P	
EI322599	IC TA75458S	
EI325947	OSC. Trans. P.C Board Assy AM-U06	
EJ650261	⚠ AC Outlet S-16432	U/T, CSA, AAL

Parts No.	Description	Notes
EJ296853	⚠ 3P Inlet CM-3	CEE, UK, SAA
EM322584	Bar Meter FIP48DW16YS	
EO325281	Choke Coil TCA-20	
EO325280	Choke Coil 220μH	
EO325278	Inductor TCD-35 15μH	
EO324150	Phase Compensation Coil 2.2μH (K)	
EP323350	Relay L-23M DC12V	
EP245305	Relay MS24D4-0Z	
ER325268	Power Filter EF-3727-203Y2R5	CEE, UK, SAA
ER325265	Power Filter UF-3729 C 182Y2R0	U/T, CSA, AAL
ES324162	⚠ Push SW. SDG-1P TV-5	U/T
ES679566	⚠ Push SW. SDG-1P TV-5	CSA, AAL
ES665807	⚠ Push SW. SDG5P-E 5A/80A 250V	CEE, UK, SAA
ES323786	Push SW. J-K2083	
ES324344	Push SW. J-K2102	
ES324118	Push SW. J-K2105	
ES306725	Slide SW. J-S4017	
ET311792	FET 2SK150 (GR) (Y)	
ET323529	Transistor 2SA608K-NP (E) (F)	
ET322778	Transistor 2SA608K-NP (E) (F) (G)	
ET311791	Transistor 2SA968 (O) (Y)	
ET219868	Transistor 2SB560 (E) (F)	
ET322598	Transistor 2SB632K (E) (F)	
ET311790	Transistor 2SC2238 (O) (Y)	
ET307195	Transistor 2SC2240 (GR) (BL)	
ET323572	Transistor 2SC2335 (K)	
ET316171	Transistor 2SC536K-NP (E) (F)	
ET322775	Transistor 2SC536K-NP (E) (F) (G)	
ET300931	Transistor 2SD600K (E) (F)	
EV618052	Semi-Fixed/Vol. CR19R 1 KB	
EV623193	Semi-Fixed/Vol. CR19R-B 2.2K	
EW306428	⚠ AC Cord (U/T)	
EW305691	⚠ AC Cord CUL	CSA, AAL

2. MAIN AMP P.C BOARD (PAW-4001) BLOCK

Symbol No.	Parts No.	Description	Schematic No.
2-1	BA320671	Main Amp P.C Board Comp. PA-W04(U/T)	PAW-4069
2-2	BA320029	Main Amp P.C Board Comp. PA-W04(CSA) (CSA, AAL)	PAW-4069
2-3	BA320030	Main Amp P.C Board Comp. PA-W04 (CEE) (CEE, UK, SAA)	PAW-4069
2-IC1	EI323563	IC STK-3042	45-8-423
2-IC2	EI323564	IC TA7317P	45-8-424
2-TR1	ET311792	FET 2SK150(GR)(Y)	45-12-22
2-TR2,3	ET307195	Transistor 2SC2240(GR) (BL)	45-1-302
2-TR4	ET219868	Transistor 2SB560(E)(F)	45-1-232
2-TR5	ET311790	Transistor 2SC2238(O)(Y)	45-1-339
2-TR6	ET311791	Transistor 2SA968(O)(Y)	45-1-338
2-TR7,8	ET322778	Transistor 2SA608K-NP(E)(F)(G)	45-1-375
2-TR9	ET307195	Transistor 2SC2240(GR) (BL)	45-1-302
2-D1	ED316143	Silicon Diode 1S2473-HS	45-3-53
2-D2,3	ED323056	Silicon Diode 1S2091	45-3-66
2-D4to7	ED323057	Silicon Varister MV12	45-10-16
2-D8,9	ED316143	Silicon Diode 1S2473-HS	45-3-53
2-D10,11	ED214457	Silicon Diode 1S2472	45-3-41
2-D12to14	ED303156	Zener Diode 05Z-22U	45-6-76
2-D15	ED316143	Silicon Diode 1S2473-HS	45-3-53
2-D16,17	ED214457	Silicon Diode 1S2472	45-3-41
2-D18,19	ED324937	Zener Diode 05Z-6.8U	45-6-76
2-D20,21	ED624903	Silicon Diode 1S2473	45-3-28
2-VR1	EV618052	Semi-Fixed/Vol. CR19R 1 KB	36-28-4
2-VR2	EV623193	Semi-Fixed/Vol. CR19R-B 2.2K	36-28-4
2-RL1,2	EP245305	Relay MS24D4-0Z	47-1-28
2-L1	EO324150	Phase Compensation Coil 2.2μH(K)	23-1-397
2-R15	ER317686	Metal Oxide Film/R. 1/4WS 1K(F)	35-17-20
2-R16	ER325291	Metal Film/R. 1/4W 18K(F)	35-17-20
2-R17	ER322590	Cement/R. (Metal Plate) 5W (0.47+0.47) ohms (K)	35-16-84
2-R18,19	ER308875	Carbon/R. F 1/2W 10 ohms (J)	35-11-27
2-R28	ER409814	Metal Oxide Film/R. 2W 220 ohm (K)	35-15-8
2-R45,46	ER490836	Metal Oxide Film/R. 2W 560 ohm (K)	35-15-8
2-R52,53	ER322787	Carbon/R. F 1/4WS 10 ohms (J)	35-11-30
2-R60	ER427972	Metal Oxide Film/R. 2W 68 ohm (K)	35-15-8
2-C21,22	EC325305	NP/C. 47μF(M) 25WV	24-17-31
2-4	ZS325495	Tapping Screw, #2 BR 3×6	

3. RECTIFIER P.C BOARD (PAW-4043/PAW-4044/PAW-4045) BLOCK

Symbol No.	Parts No.	Description	Schematic No.
3-D1	ED325264	Silicon Stack 3J4B1	45-2-104
3-L1	ER325265	⚠ Power Filter UF-3729 C 182Y2R0 (U/T, CSA, AAL)	23-1-415
3-L1	ER325268	⚠ Power Filter EF3727-203Y2R5 (CEE, UK, SAA)	23-1-414
3-C1	EC323557	⚠ Oil Paper/C. 0.1μF(K) 1KWV (U/T)	24-8-7
3-C1	EC326827	⚠ Metalized Mylar/C. (Vert.) 0.1μF(M) 125VAC (CSA, AAL)	24-16-30
3-C1	EC258298	⚠ MP/C. PEM271 0.1μF(M) 250WV (CEE, UK, SAA)	24-9-118
3-C2	EC256950	MP/C. PEM271 0.01μF(M) 250WV (U/T)	24-9-118
3-C2	EC314688	Ceramic/C. DE7150 FZ 0.01μF(P) 125WV (CSA, ALL)	24-5-87
3-C2	EC256950	MP/C. PEM271 0.01μF(M) 250WV (CEE, UK, SAA)	24-9-118
3-C3	EC325286	Ceramic/C. (Vert.) D 0.0022μF(M) 400WV (UT)	24-5-104
3-C3	EC325266	Ceramic/C. 0.0047μF(P) 125VAC (CSA, AAL)	24-5-87
3-C3	EC325286	Ceramic/C. (Vert.) D 0.0022μF(M) 400WV (CEE, UK, SAA)	24-5-104
3-C4,5	EC323560	Elect./C. 470μF 200WV (U/T, CSA, AAL)	24-12-69
3-C4,5	EC323558	Elect./C. 100μF 400WV (CEE, UK, SAA)	24-12-68
3-R1to4	ER622978	Metal Plate/R. MPC71F1 5W 0.47 ohm(K)	35-16-48

4. PULSE POWER P.C BOARD (PAW-4042A/PAW-6004A) BLOCK

Symbol No.	Parts No.	Description	Schematic No.
4-TR1	ET323529	Transistor 2SA608K-NP (E) (F)	45-1-375
4-TR2	ET316171	Transistor 2SC536K-NP(E) (F)	45-1-362
4-TR3to6	ET323572	Transistor 2SC2335(K)	45-1-381
4-TR7	ET322598	Transistor 2SB632K(E)(F)	45-1-374
4-D1	ED323573	Trigger Diode 1S2093	45-3-65
4-D2	ED560913	Silicon Diode 1S2473 VE	45-3-23
4-D3	ED323512	Silicon Diode CTU-24S	45-2-101
4-D4	ED323513	Silicon Diode CTU-24R	45-2-102
4-D5to8	ED325275	Silicon Diode S5295D	45-2-105
4-SW1	ES306725	Slide SW. J-S4017	25-3-157
4-T1	BT325267	Pulse Trans. PT-W04T	23-1-410
4-L1	EO325281	Choke Coil TCA-20	23-1-411
4-L2to5	EO325728	Inductor TCD-35 15μH	23-1-412
4-L6,7	EO325280	Choke Coil 220μH	23-1-413
4-R1	ER325277	Metal Oxide Film/R. F 1W 68K(J)	35-19-1
4-R5	ER324222	Metal Plate/R. 2W 0.22 ohm(K)	35-16-38
4-R18	ER325288	Metal Oxide Film/R. F 2W 6.8 ohms(J)	35-19-2
4-C1	EC551160	Ceramic/C. DB821 NA 0.01μF(Z) 1.4KWV	24-5-55
4-C2,3	EC323574	Elect./C. (Vert.) 3.3μF 450WV	24-12-66
4-C4,5	EC324468	Metalized Mylar/C.(Vert.) 0.47μF(K) 400WV	24-16-28
4-C6	EC325316	Metalized Mylar/C.(Vert.) 0.33μF(K) 400WV	24-16-28
4-C8,9	EC323517	Ceramic/C. (Vert.) B 100PF(K) 1KWV	24-5-101
4-C21	EC325286	Ceramic/C. (Vert.) D 0.0022μF(M) 400WV	24-5-104
4-1	EI325947	OSC. Trans. P.C Board Assy AM-U06	AMU-6034
4-2	ZS380046	Screw, Pan 3×10	
4-3	ZS379350	Screw, Pan 3×6	
4-4	ZS558101	Screw, Pan 3X6 w/Washer	

5. SW. P.C BOARD (PAW-4003A) BLOCK

Symbol No.	Parts No.	Description	Schematic No.
5-IC1	EI322599	IC TA75458S	45-8-415
5-TR1	ET300931	Transistor 2SD600K(E)(F)	45-1-278
5-TR2,3	ET322775	Transistor 2SC536K-NP(E)(F)(G)	45-1-362
5-TR4,5	ET322778	Transistor 2SA608K-NP(E)(F)(G)	45-1-375
5-TR6to8	ET322775	Transistor 2SC536K-NP(E)(F)(G)	45-1-362
5-D1	ED316143	Silicon Diode 1S2473-HS	45-3-53
5-D2	ED562386	Germanium Diode 1S188AM	45-3-24
5-D3	ED323530	Zener Diode 05Z-12U	45-6-76
5-D4to6	ED316143	Silicon Diode 1S2473-HS	45-3-53
5-SW1	ES324118	Push SW. J-K2105	25-5-367
5-SW2.3	ES324344	Push SW. J-K2102	25-5-383
5-R23	ER322221	Carbon/R. F 1/4W 56 ohms(J)	35-11-25
5-1	ZS325495	Tapping Screw, #2 BR 3×6	

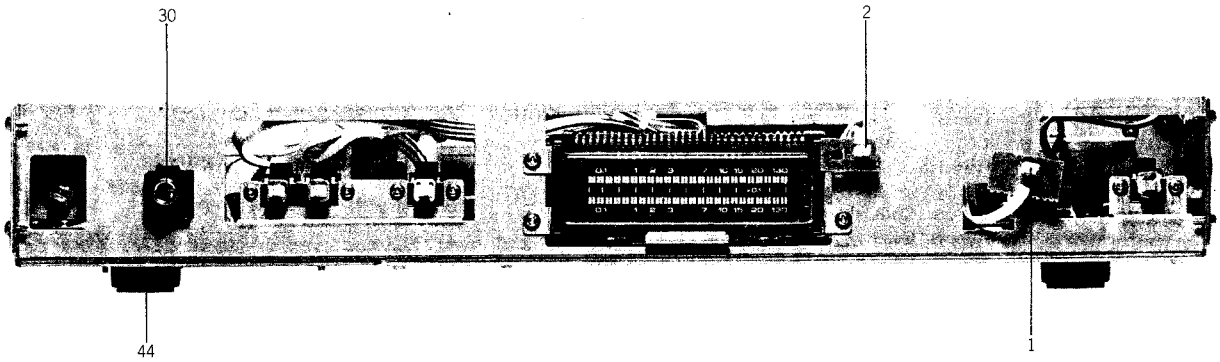
6. FILTER P.C BOARD (PAW-4002A) BLOCK

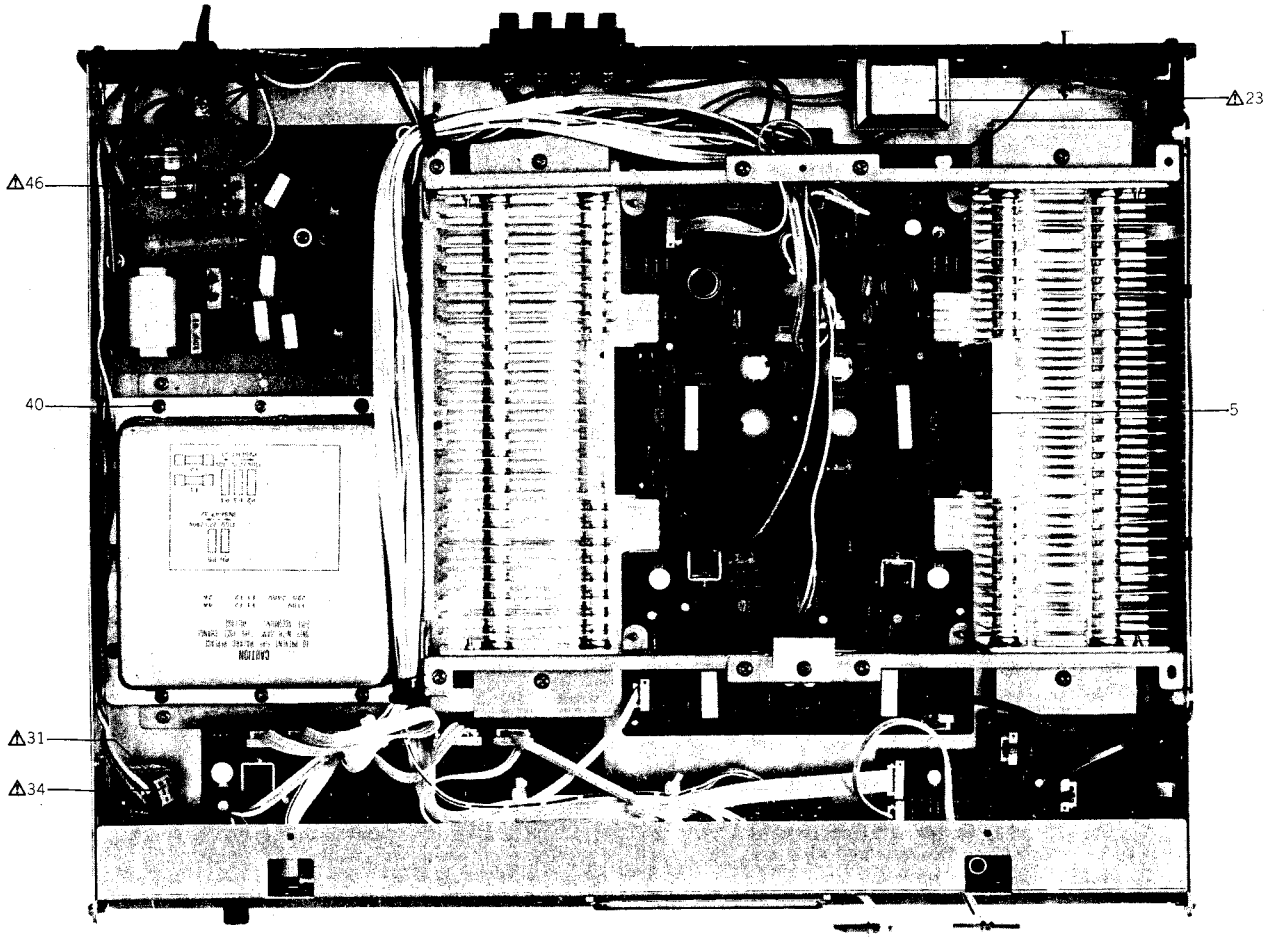
Symbol No.	Parts No.	Description	Schematic No.
6-IC1	EI323054	IC TA7322P	45-8-419
6-SW1	ES323786	Push SW. J-K2083	25-5-351
6-RL1	EP323350	Relay L-23M DC12V	47-2-34
6-R9,10	ER325269	Carbon/R. F 1/4WS 2.2K(J)	35-11-30
6-R13	ER325270	Metal Oxide Film/R. 1W 2.7K(K)	35-15-10
6-R14	ER539087	Metal Oxide Film/R. 1W 2.2K(K)	35-15-10
6-C2	EC325272	NP/C. 1μF(M) 50WV	24-17-35
6-C8	EC325320	NP/C. 2.2μF(M) 50WV	24-17-35

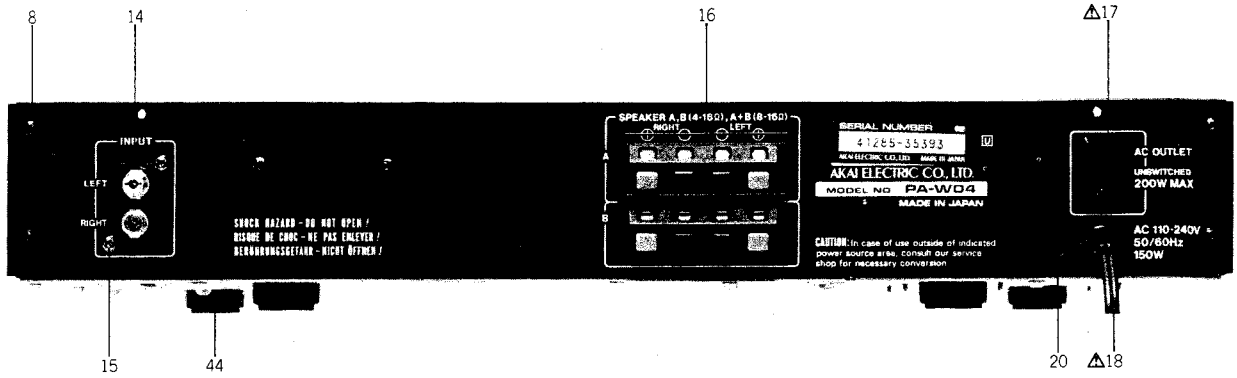
7. BAR METER P.C BOARD (AMU-2006) BLOCK

Symbol No.	Parts No.	Description	Schematic No.
7-IC1	EI322791	IC LC7556	45-8-425
7-D1	ED322774	Zener Diode 05Z5.1U	45-6-76
7-D2	ED322810	Zener Diode WZ-040	45-6-67
7-IND1	EM322584	Bar Meter FIP48DW16YS	59-1-2
7-1	ZS422076	Screw, Pan 3×5	

8. ASSEMBLY BLOCK



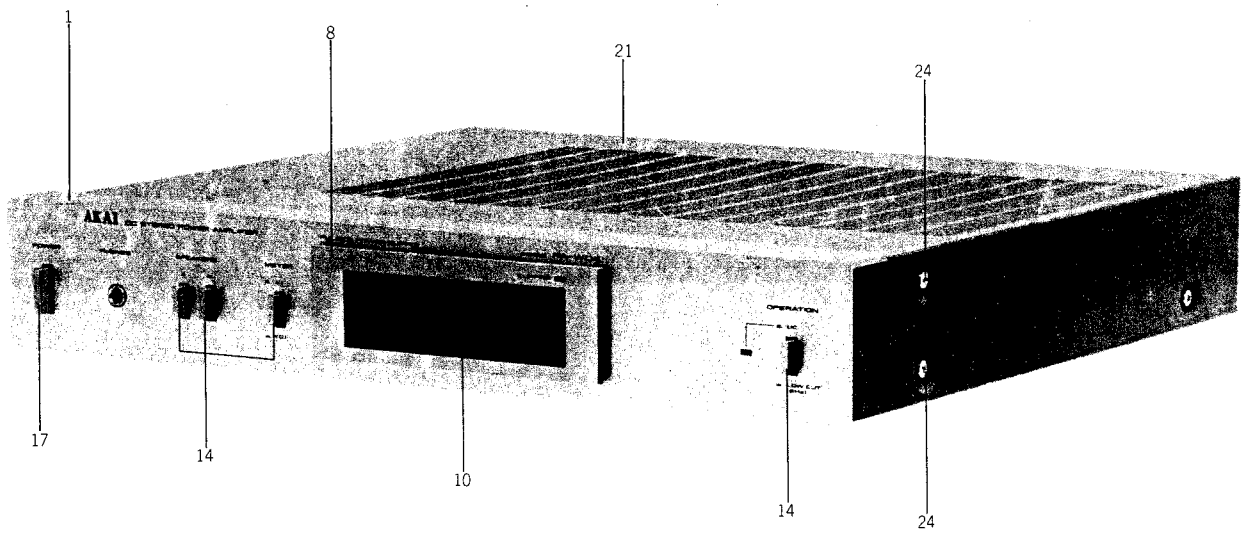




ASSEMBLY BLOCK

Ref. No.	Parts No.	Description	Schematic No.
		LED P.C BOARD (A) BLOCK	
8-1	ED322773	LED SLP-255D-01	45-15-37
		LED P.C BOARD (B) BLOCK	
8-2	ED322772	LED SLP-155D-01	45-15-38
		MAIN AMP BLOCK	
8-3x	ZS498273	Tapping Screw #2, BR 3x8 W=8	
8-4x	ZS325495	Tapping Screw, #2 BR 3x6	
		HEAT PIPE BLOCK	
8-5	EI325303	IC STK-0050(2)	45-8-487
8-6x	ZS321279	Tapping Screw, #2 BR 3x18	
8-7x	ZS447840	Tapping Screw, #2 BR 3x8	
		REAR PANEL BLOCK	
8-8	SP325212	Rear Panel (A) (U/T)	PAW-4012
8-9x	SP325213	Rear Panel (B) (CSA)	PAW-4012
8-10x	SP325214	Rear Panel (C) (AAL)	PAW-4012
8-11x	SP325215	Rear Panel (D) (CEE)	PAW-4013
8-12x	SP325216	Rear Panel (E) (UK, SAA)	PAW-4013
8-13x	ZW305013	Pop Rivet D3.2 (AAL)	7-6-9
8-14	EJ308834	2P Pin Jack T-5511	31-5-143
8-15	ZS522865	Tapping Screw, #2 BR 3x12 (Black)	
8-16	EJ322582	4P Push Terminal	32-1-107
8-17	EJ650261	⚠ AC Outlet S-16432 (U/T, CSA, AAL)	31-1-147
8-18	EW306428	⚠ AC Cord (U/T)	26-3-64
8-19x	EW305691	⚠ AC Cord CUL (CSA, AAL)	26-3-65
8-20	EZ631945	Strain Relief SR-4N-4 (U/T, CSA, AAL)	2-7-49
8-21	EJ296853	⚠ 3P Inlet CM-3(CEE,UK,SAA)	31-1-199
8-22x	ZS463353	Tapping Screw, #2 BR 3x8 (Black)	
8-23	BT325302	⚠ Power Trans. PA-W04T-70 (U/T)	38-4-826
8-24x	BT325299	⚠ Power Trans. PA-W04T-30 (CSA, AAL)	38-4-823
8-25x	BT325300	⚠ Power Trans. PA-W04T-40 (CEE)	38-4-824
8-26x	BT325301	⚠ Power Trans. PA-W04T-50 (UK, SAA)	38-4-825
8-27x	ZW609434	Flange Nut M3	
8-28x	ZS396044	Screw, Bind 3x8	
		ASSEMBLY BLOCK	
8-29x	ZS422076	Screw, Pan 3x5	
8-30	EJ301199	Headphone Jack 3P64M	31-2-83
8-31	ES324162	⚠ Push SW. SDG-1P TV-5(U/T)	25-5-377
8-32x	ES679566	⚠ Push SW. SDG1P TV5 (CSA, AAL)	25-5-204
8-33x	ES665807	⚠ Push SW. SDG5P-E 5A/80A 250V (CEE, UK, SAA)	25-5-182
8-34	EC301320	⚠ MP/C. 4700PF(M) 250WV (U/T)	24-9-122
8-35x	EC314688	⚠ Ceramic/C. DE7150 FZ 0.01μF(P) 125WV (CSA, AAL)	24-5-87
8-36x	EC301320	⚠ MP/C. 4700PF(M) 250WV (CEE, UK, SAA)	24-9-122
8-37x	ZS306021	S-Tight Screw, Pan 3x6	
8-38x	ZS308846	Tapping Screw, #2 BR 3x8 (Oval Neck)	7-1-69
8-39x	ZS306486	Tapping Screw, #2 BR 3x8 w/Washer	
8-40	ZS447805	Tapping Screw, #2 BR 3x12	
8-41x	ZS434250	Screw, Pan 4x8 w/Washer	
8-42x	ZW413188	Nut, #1 M4	
8-43x	SP325208	Bottom Plate	PAW-4-009
8-44	SA311742	Circular Foot	PC-2032
8-45x	ZS565942	Tapping Screw, #2 Pan 4x8	
8-46	EF306950	⚠ Fuse 2A 250V (U/T)	39-1-64
8-47x	EF306957	⚠ Fuse 4A 125V (CSA, AAL)	39-1-65
8-48x	EF300581	⚠ Fuse (EAK) 2AT (CEE, UK, SAA)	39-1-59

9. FINAL ASSEMBLY BLOCK



FINAL ASSEMBLY BLOCK

Ref. No.	Parts No.	Description	Schematic No.
9-1	BD320678	Front Panel BLK PA-W04	PAW-4071
9-2x	BD320679	Front Panel BLK PA-W04-BL	PAW-4071
9-3x	ZW452395	Washer (SPC) D2.3×7×0.5t	
9-4x	ZS296381	Tapping Screw, #2 BR 2.3×8	
9-5x	SE325230	Escutcheon (A)	PAW-4025
9-6x	SE325231	Escutcheon (B)	PAW-4026
9-7x	SE322578	Escutcheon (A)	ATK-2013
9-8	SP325228	Sub Panel	PAW-4023,4024
9-9x	SP325229	Sub Panel (BL)	PAW-4023,4024
9-10	SZ323193	FLD Plate	ATV-4037
9-11x	SZ325322	FLD Filter (B)	ATV-4038
9-12x	ZW301012	Washer D3.2×10×1t	
9-13x	ZS322402	Special Tapping Screw, Pan 3×8	7-1-70
9-14	SB322557	Button	AMU-2044
9-15x	SB322558	Button (BL)	AMU-2044
9-16x	ZG322566	Spring	AMU-2050
9-17	SB322576	Button (A)	ATK-2012
9-18x	SB322577	Button (A-BL)	ATK-2012
9-19x	ZG322579	Spring (A)	ATK-2014
9-20x	ZS447840	Tapping Screw, #2 BR 3×8	
9-21	SP325223	Upper Plate (A)	PAW-4020
9-22x	SP325225	Upper Plate (B) (AAL)	PAW-4020
9-23x	SP325224	Upper Plate (A-BL)	PAW-4020
9-24	ZS322570	S-Tight Screw, Bind 4×8	
9-25x	ZS322580	S-Tight Screw, Bind 4×8 (AAL, BL)	
9-26x	ZS308846	Tapping Screw, #2 3×8 (Oval Neck)	7-1-69

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1. MODEL PR-A04

Parts No.	Ref. No. & Symbol No.	Parts No.	Ref. No. & Symbol No.	Parts No.	Ref. No. & Symbol No.	Parts No.	Ref. No. & Symbol No.
BA320436	2-1	ET307195	2-TR2,3				
BA320440	3-1	ET307195	2-TR7				
BC322209	6-20	ET307195	2-TR9				
BC322210	6-22x	ET311790	2-TR5				
BC322212	6-21x	ET311791	2-TR6				
BD320448	6-1	ET311792	2-TR15				
BD320449	6-2x	ET322775	2-TR13				
BT324899	5-30x	EV324914	5-6				
BT324906	5-29	EV324915	5-5				
BT324907	5-31x	EV324941	3-VR1				
BT324908	5-32x	EV324942	3-VR2				
EC301320	5-28x	EV618052	2-VR1				
EC314688	5-27x	EW302995	6-35x				
EC321302	5-26	EW305691	5-19x				
EC324102	2-C19	EW306428	5-18				
EC324103	2-C20	EW315767	6-34x				
EC324115	2-C42	EW322401	6-36x				
EC324896	2-C1	EW324918	5-37				
EC324920	2-C2	EW324919	5-35				
EC324921	2-C3	EZ631945	5-20				
EC324921	2-C15	MS324861	5-40				
EC324922	2-C11,12	SA311742	5-7				
EC324922	2-C21	SB322557	6-8				
EC324924	3-C11	SB322558	6-9x				
EC324924	3-C15	SB322576	6-4				
EC324926	3-C23	SB322577	6-5x				
EC325272	3-C9	SE322578	6-3x				
EC325272	3-C16	SE324877	5-2x				
EC326583	4-C3	SE325061	6-7x				
ED300924	2-D3	SK320451	6-13				
ED306723	2-D6,7	SK320452	6-14x				
ED316143	2-D2	SK322555	6-32				
ED322773	5-1	SK322556	6-33x				
ED323057	2-D1	SK323042	6-30				
ED324912	4-D1	SK323043	6-31x				
ED324936	2-D4,5	SK323199	5-53				
ED324937	2-D8	SK324871	6-26				
EF300586	5-49x	SK324872	6-27x				
EF300588	5-50x	SK324875	6-28				
EF300590	5-48x	SK324876	6-29x				
EF309388	5-45x	SP324844	5-9				
EF309391	5-46x	SP324845	5-10x				
EF315334	5-47x	SP324846	5-11x				
EI323054	2-IC1	SP324847	5-12x				
EI323054	3-IC1,2	SP324848	5-13x				
EJ240535	5-16	SP324849	2-2				
EJ293365	2-J3,4	SP324865	6-11				
EJ293376	2-J5	SP324866	6-12x				
EJ301513	5-17x	SZ324867	6-16				
EJ324932	2-J2	TA322261	5-52				
EJ325358	2-TM901,902	TA324862	5-51				
EJ698051	2-J6	TC300422	5-43				
EL324910	5-44	ZG322566	6-10x				
EP323350	2-RL1	ZG322579	6-6x				
ER306879	2-R20,21	ZS296381	5-3x				
ER322787	2-R57,58	ZS300506	5-22x				
ER324934	2-R27,28	ZS308846	5-14				
ER324934	3-R14	ZS308846	6-25x				
ER-324934	3-R16	ZS319460	5-38x				
ER324934	3-R34	ZS322402	6-18				
ER324934	3-R36	ZS322570	6-23				
ER324935	2-R43	ZS322580	6-24x				
ES310839	5-25x	ZS325495	2-6				
ES323369	2-SW3,4	ZS325495	5-15				
ES324162	5-23	ZS413201	5-33				
ES324916	5-36	ZS447840	6-19x				
ES324917	5-4	ZS498273	5-39x				
ES324930	2-SW2	ZS522865	2-5				
ES324931	2-SW1	ZS565942	5-8x				
ES324939	3-SW2	ZW270088	6-15x				
ES324940	3-SW1	ZW270123	5-42x				
ES324940	3-SW3,4	ZW301012	6-17x				
ES679566	5-24x	ZW305013	5-21x				
ET240671	2-TR14	ZW322110	5-41x				
ET300931	2-TR11	ZW413267	5-34x				
ET301165	2-TR12	ZW652408	2-4				
ET305463	2-TR1	ZW698308	2-3				
ET305463	2-TR4						
ET305463	2-TR8						
ET305463	2-TR10						

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2. MODEL PA-W04

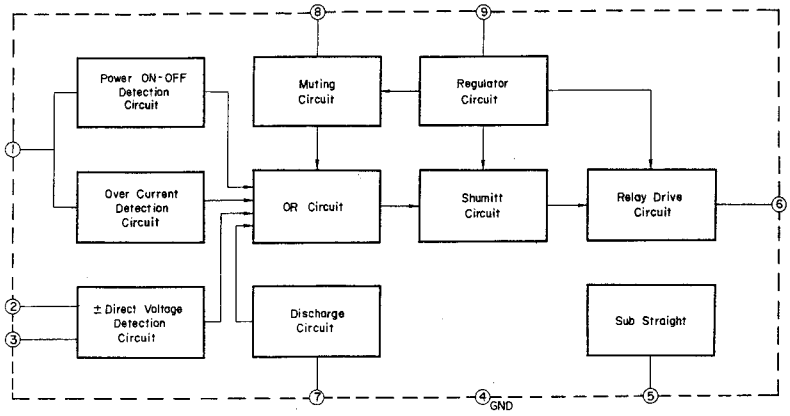
Parts No.	Ref. No. & Symbol No.	Parts No.	Ref. No. & Symbol No.	Parts No.	Ref. No. & Symbol No.	Parts No.	Ref. No. & Symbol No.
BA320029	2-2	ER317686	2-R15	ZS380046	4-2		
BA320030	2-3	ER322221	5-R23	ZS396044	8-28x		
BA320671	2-1	ER322590	2-R17	ZS422076	7-1		
BD320678	9-1	ER322787	2-R52,53	ZS422076	8-29x		
BD320679	9-2x	ER324222	4-R5	ZS434250	8-41x		
BT325267	4-T1	ER325265	3-L1	ZS447805	8-40		
BT325299	8-24x	ER325268	3-L1	ZS447840	8-7x		
BT325300	8-25x	ER325269	6-R9,10	ZS447840	9-20x		
BT325301	8-26x	ER325270	6-R13	ZS463353	8-22x		
BT325302	8-23	ER325277	4-R1	ZS498273	8-3x		
EC256950	3-C2	ER325288	4-R18	ZS522865	8-15		
EC256950	3-C2	ER325291	2-R16	ZS558101	4-4		
EC258298	3-C1	ER409814	2-R28	ZS565942	8-45x		
EC301320	8-34	ER427972	2-R60	ZW301012	9-12x		
EC301320	8-36x	ER490836	2-R45,46	ZW305013	8-13x		
EC314688	3-C2	ER539087	6-R14	ZW413188	8-42x		
EC314688	8-35x	ER622978	3-R1to4	ZW452395	9-3x		
EC323517	4-C8,9	ES306725	4-SW1	ZW609434	8-27x		
EC323557	3-C1	ES323786	6-SW1				
EC323558	3-C4,5	ES324118	5-SW1				
EC323560	3-C4,5	ES324162	8-31				
EC323574	4-C2,3	ES324344	5-SW2,3				
EC324468	4-C4,5	ES665807	8-33x				
EC325266	3-C3	ES679566	8-32x				
EC325272	6-C2	ET219868	2-TR4				
EC325286	3-C3	ET300931	5-TR1				
EC325286	3-C3	ET307195	2-TR2,3				
EC325286	4-C21	ET307195	2-TR9				
EC325305	2-C21,22	ET311790	2-TR5				
EC325316	4-C6	ET311791	2-TR6				
EC325320	6-C8	ET311792	2-TR1				
EC326827	3-C1	ET316171	4-TR2				
EC551160	4-C1	ET322598	4-TR7				
ED214457	2-D10,11	ET322775	5-TR2,3				
ED214457	2-D16,17	ET322775	5-TR6to8				
ED303156	2-D12to14	ET322778	2-TR7,8				
ED316143	2-D1	ET322778	5-TR4,5				
ED316143	2-D8,9	ET323529	4-TR1				
ED316143	2-D15	ET323572	4-TR3to6				
ED316143	5-D1	EV618052	2-VR1				
ED316143	5-D4to6	EV623193	2-VR2				
ED322772	8-2	EW305691	8-19x				
ED322773	8-1	EW306428	8-18				
ED322774	7-D1	EZ631945	8-20				
ED322810	7-D2	SA311742	8-44				
ED323056	2-D2,3	SB322557	9-14				
ED323057	2-D4to7	SB322558	9-15x				
ED323512	4-D3	SB322576	9-17				
ED323513	4-D4	SB322577	9-18x				
ED323530	5-D3	SE322578	9-7x				
ED323573	4-D1	SE325230	9-5x				
ED324937	2-D18,19	SE325231	9-6x				
ED325264	3-D1	SP325208	8-43x				
ED325275	4-D5to8	SP325212	8-8				
ED560913	4-D2	SP325213	8-9x				
ED562386	5-D2	SP325214	8-10x				
ED624903	2-D20,21	SP325215	8-11x				
EF300581	8-48x	SP325216	8-12x				
EF306950	8-46	SP325223	9-21				
EF306957	8-47x	SP325224	9-23x				
EI322599	5-IC1	SP325225	9-22x				
EI322791	7-IC1	SP325228	9-8				
EI323054	6-IC1	SP325229	9-9x				
EI323563	2-IC1	SZ323193	9-10				
EI323564	2-IC2	SZ325322	9-11x				
EI325303	8-5	ZG322566	9-16x				
EI325947	4-1	ZG322579	9-19x				
EJ296853	8-21	ZS296381	9-4x				
EJ301199	8-30	ZS306021	8-37x				
EJ308834	8-14	ZS306486	8-39x				
EJ322582	8-16	ZS308846	8-38x				
EJ650261	8-17	ZS308846	9-26x				
EM322584	7-IND1	ZS321279	8-6x				
EO324150	2-L1	ZS322402	9-13x				
EO325278	4-L2to5	ZS322570	9-24				
EO325280	4-L6,7	ZS322580	9-25x				
EO325281	4-L1	ZS325495	2-4				
EP245305	2-RL1,2	ZS325495	5-1				
EP323350	6-RL1	ZS325495	8-4x				
ER308875	2-R18,19	ZS379350	4-3				

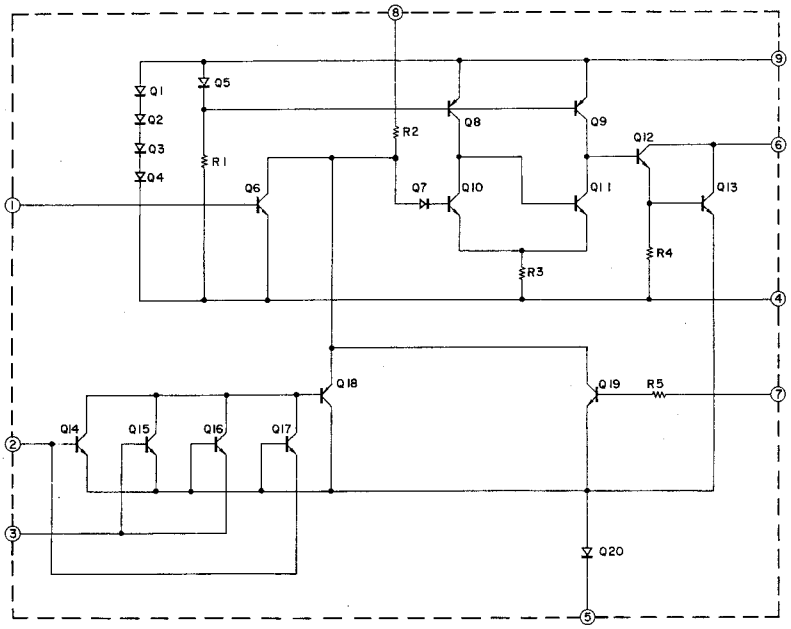
SECTION 4

SCHEMATIC DIAGRAM

1. SCHEMATIC DIAGRAM OF ICs
2. PR-A04 NO. 1600612A SCHEMATIC DIAGRAM
3. PA-W04 NO. 1600613A SCHEMATIC DIAGRAM

TA7317P





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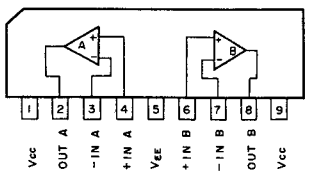

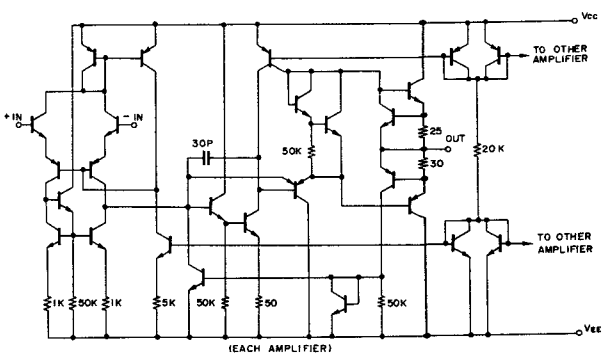

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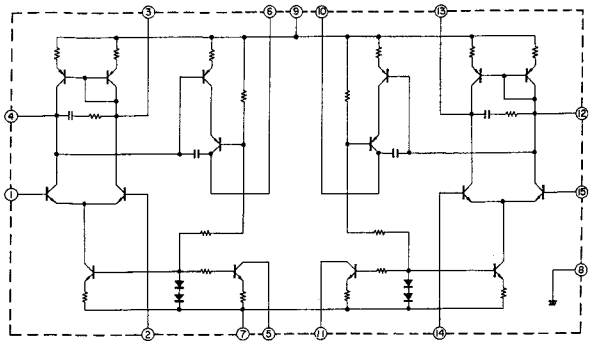

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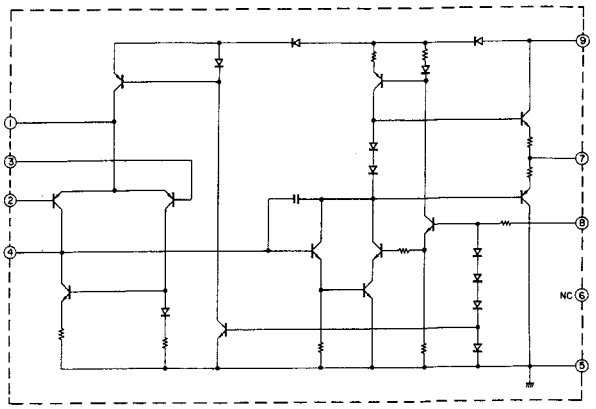
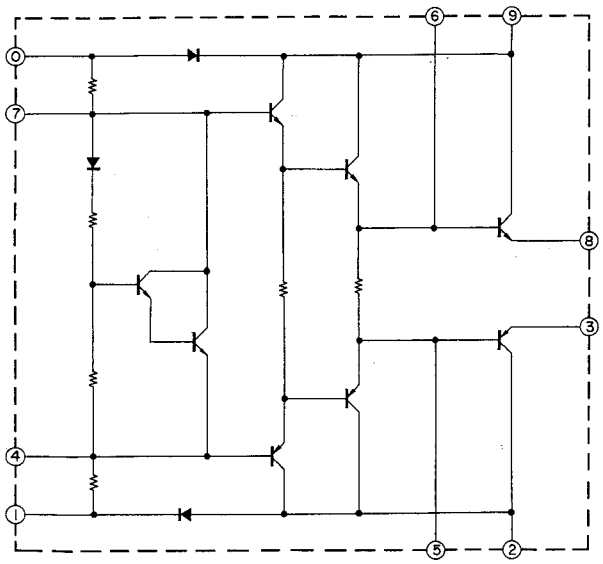
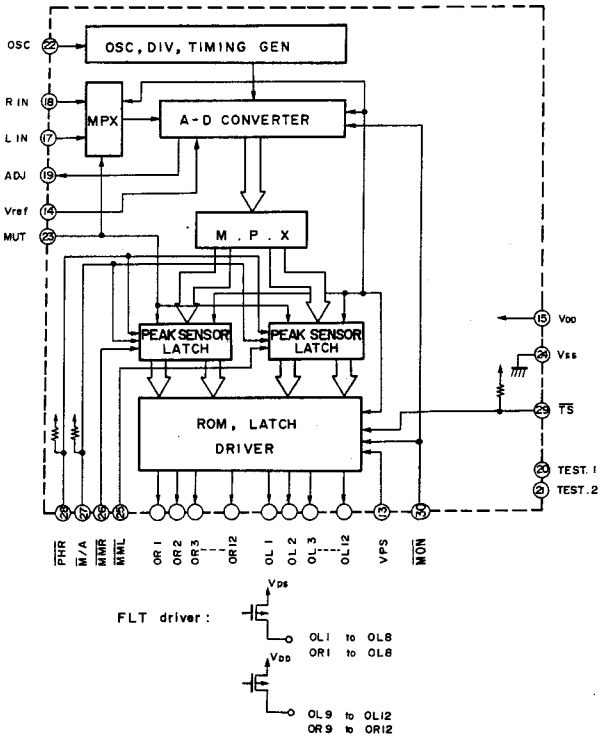


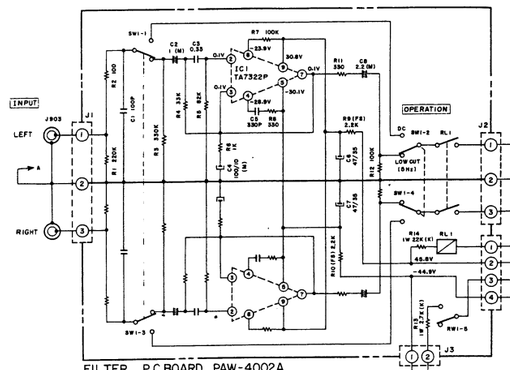
STK0050-II

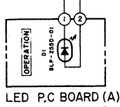


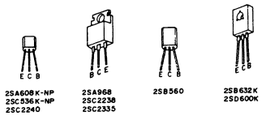
LC7556

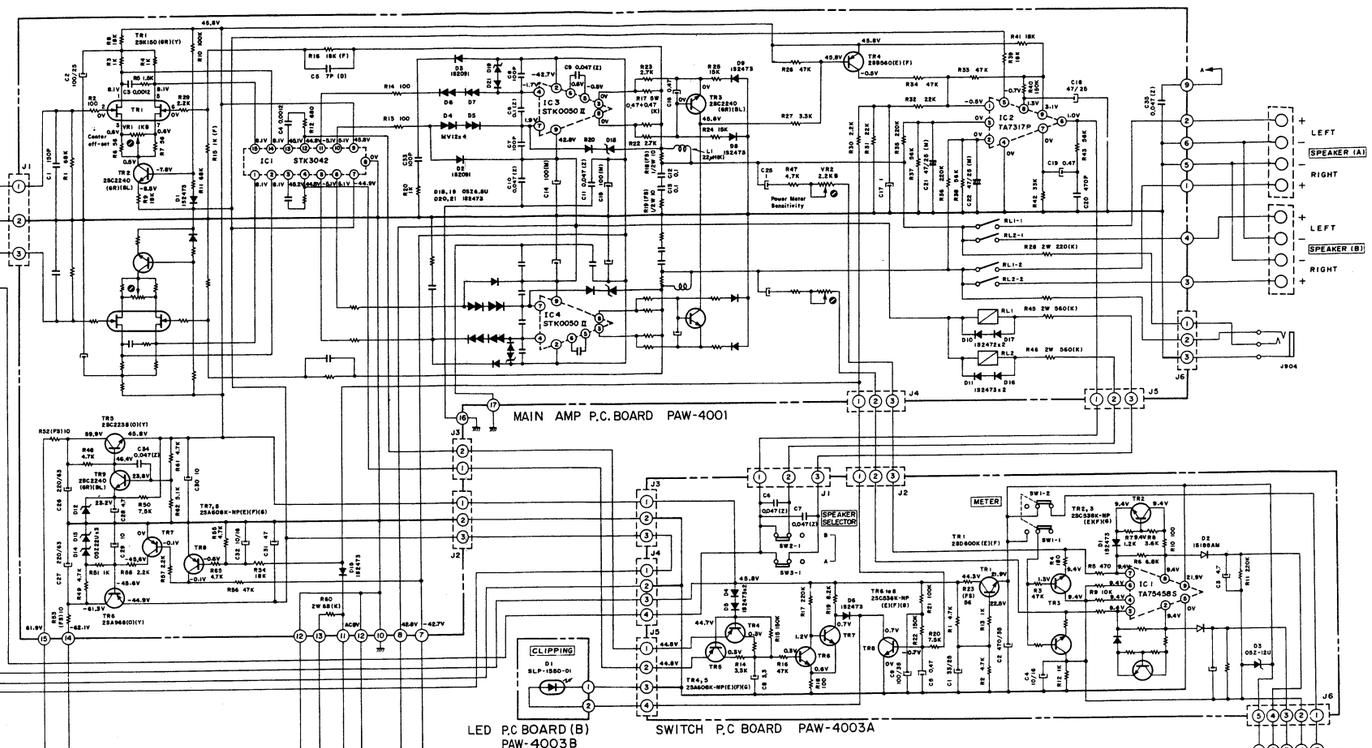


PA-W04



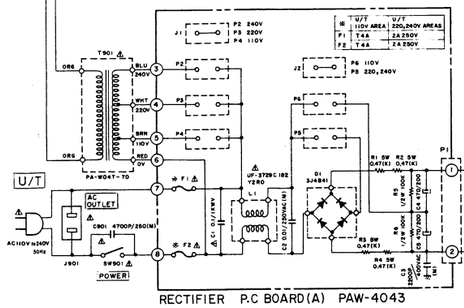


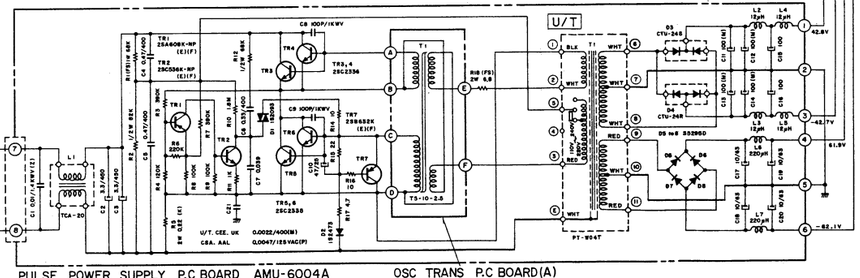


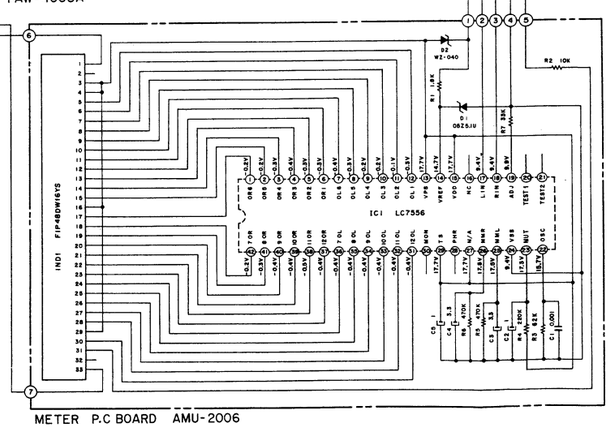


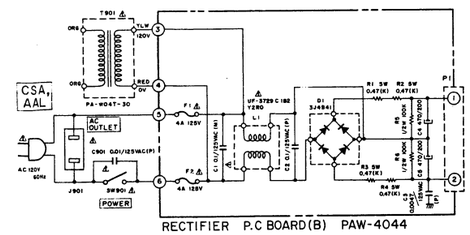
WARNING: ⚠INDICATES SAFETY CRITICAL COMPONENTS. FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS

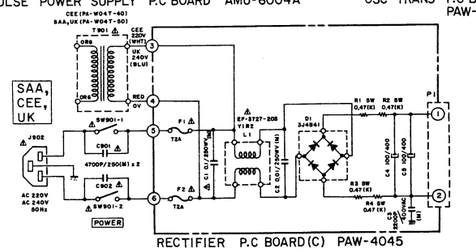
AVERTISSEMENT: ⚠ IL INDIQU LES COMPOSANTS CRITIQUES DE SÛRETÉ. POUR MAINTENIR LE DEGRÉ DE SECURITÉ DE L'APPAREIL NE REMPLACER LES COMPOSANTS DONT LE FONCTIONNEMENT EST CRITIQUE POUR LA SECURITÉ QUE PAR DES PIÈCES RECOMMANDÉES PAR LE FABRICANT

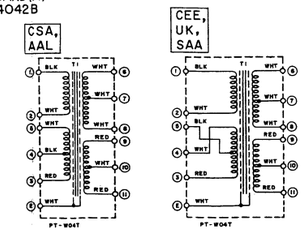












NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/4W(J)
ALL CAPACITORS IN μF 50 WV(J)
(FS) = FAIL SAFE RESISTORS
POWER TRANSFORMER IS DIFFERENT ACCORDING TO AREA

PA-W04
SCHEMATIC DIAGRAM
No. 1600613A
2C

PR-A04

PRE-AMP. P.C. BOARD PRA-4001A (1/2)

SWITCH P.C. BOARD PRA-4001B

LED P.C. BOARD PRA-4002B

TONE CONTROL P.C. BOARD PRA-4002A (1/2)

BALANCE P.C. BOARD PRA-4042

PRE-AMP P.C. BOARD PRA-4001A (2/2)

VOLUME P.C. BOARD PRA-4001C (1/2)

VOLUME P.C. BOARD PRA-4001C (2/2)

FUSE P.C. BOARD PRA-4003

FUSE P.C. BOARD PRA-4004

FUSE P.C. BOARD PRA-4005

2SC2240 2SA970 2SC536K-NP

2SD438

2SB631K 2SD600

2SA968 2SC2238

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PR-A04
SCHEMATIC DIAGRAM
NO. 1600612A
2C